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INDIVIDUALISM IN RELATION TO TOWNS.

THERE appears to be, just at present, a considerable body of people, including some eloquent amateur writers on architectural subjects, who deplore the tendency which they fear is gaining ground to crush individualism in street architecture and to substitute for that quality a soulless formality and uniformity. Others declare that it is only by subordinating individualism that we can ever hope to make a fine modern city.

The question of deciding which party is in the right is not quite so simple as it might appear, because the phrase "A fine modern city" involves qualities more or less antagonistic.

In the first place, it is an almost unheard-of thing for a completely new city to come suddenly into being—in Europe at any rate. Towns grow spasmodically and unexpectedly, and in directions it is almost impossible to foresee, so that no man, however great his foresight, can lay-out a scheme for a large city with any real hope of its ever reaching completion on the lines he has laid down. There is bound to be a succession of compromises to fit the varying needs of different interests, of growing or diminishing population, of new industries, and even the whims of fashion. All this means that individualism can never be crushed, that there will always be enough accidentals even in the most formally-planned city to preserve it from a too cold monotony.

Take the case of London. Suppose that after the Great Fire Wren's plans for the reconstruction of the City had been carried out and extended on similar lines during the expansion of the town in the eighteenth century. We should then have had at the period of the Regency a homogeneous London, with wide straight streets, regular blocks of houses in the Neo-Classic style, and a coherent plan; just the sort of city that the romantic individualists most hate. But, granting for the moment that such a town is an æsthetic mistake, the sudden growth of industrialism and the coming of the railways would have effectually broken up the too great formality of our hypothetical London. As it was the railways merely turned confusion into chaos and made of London a labyrinth which Dædalus himself could not have bettered. The point we want to make is that individualism is inevitable in any town with more than ten years' history. The primary function of towns is to afford shelter and convenient means of intercourse to a large number of people crowded into a small space. As means of intercourse improve the citizens will alter and patch at their town to render it still more convenient, regardless of the wishes of any number of architects or enthusiastic amateurs of æsthetic righteousness. This crumb of comfort we can safely offer to those who are distressed at the attempts to make London like modern Paris.

But to look at the matter from another point of view. Every great city has its own atmosphere, makes a quite different impression on the mind of the traveller, and gives him, if he be at all an observant being, a sense of personality. London and Liverpool, though both inhabited by more or less English-speaking people, and both situated on a tidal river and owing their very existence to this fact, have absolutely distinct personalities. And this fact seems to us to imply that cities, as entities, can be regarded as works of art. Anything which expresses its meaning and purpose through form in the way that a city does seems to us to justify the term, work of art. It may be urged that conscious effort is a necessary ingredient in a true work of art; but we think a fine city is the result of the conscious efforts of its inhabitants to express their architectural needs. If this be granted, it follows at once that to make that expression as emphatic and clear as possible every part of the city must express the same idea. In other words, the city must be a uniform homogeneous unit, where individualism is suppressed or subordinated to one general purpose, the expression of the city's main reason for existence.

As we have pointed out above, every considerable city has a history, which is only the story of the changes that have taken place in its main reason for existence. So that, unless the city is to be entirely rebuilt by every succeeding generation—a manifest absurdity—it cannot permanently express its *raison d'être* with absolute clearness. But that is no reason for allowing every house-builder to be a law unto himself. Even if different parts of the city tell very different stories, it does not justify every shopkeeper in the Strand proclaiming to the stranger within our gates the particular brand of vulgarity in the way of shop fronts that he thinks best fitted to display his wares. That once popular song, "Let's all go down the Strand," would have had more attraction for us if, instead of the terrible hotchpotch of debased Gothic or other nameless forms of architectural confectionery which line that thoroughfare, we could have reached the quiet dignity of Somerset House through a street designed as an architectural unit, say by Nash. Can any individualist seriously maintain that Regent-street, even now, with all the modern innovations that have crept in, is not a pleasanter place to walk down than the Strand or Tottenham Court-road? True, the thirsty soul finds more opportunities of refreshment in the Strand than in Nash's stately street, but that is a point of view with which we have little sympathy.

If it be admitted at all that a town or even a street can be regarded as a single work of art, then the laws which govern the production of all forms of art, from a sonnet to a cathedral, must be applied. The most important of these laws, it will be universally admitted, are unity, design, and rhythm—all ultimately only different forms of emphasis, but in their nature absolutely barring out individualism if the best result is to be obtained from the point of view of art.

But, on the other hand, a city is very much more than a work of art. It must, for instance, be healthy as well as beautiful. The regrettable fact that human beings when herded closely together require frequent baths and other sanitary measures, if they are not to become distasteful to each other, requires to be taken into account.

The requirements of commerce, too, must have a paramount influence on town planning. In itself trade is a definitely inartistic thing. It simply means getting something you want badly in exchange for as little as possible of something you want less urgently. And much of modern trade is even more sordid than this, since it involves the manufacture of perfectly useless articles which a foolish public is induced by the hypnotism of exaggerated advertisement to buy and burden itself with.

But neither trade nor sanitation seem to us to afford any help to the individualists in their crusade. They only indicate the need for some controlling authority to keep in check their more or less displeasing manifestations.

Lastly, let us deal with the argument founded on the picturesque. Certain old towns, of the Gothic period, are

the haunts of a certain type of painter, who finds "quaint bits" and "picturesque subjects" in their narrow and twisting streets and tumbledown houses. These pictures, which are to be seen in every dealer's window, have popularised decay and made dirt and discomfort artistic, and have given rise to the feeling that the incoherence of a mediæval town, because it looks so picturesque now that it is dead, should be imitated in the architecture of to-day. We think the amiable people who revel in the time-worn stones and romantic air that the centuries have given to mediæval buildings would be bitterly disappointed could they but see the same edifices when they left the builders' hands, and be forced to walk in the narrow and stinking alleys which formed the thirteenth-century substitute for streets.

NOTES.

The Prix de Rome Drawings.

THE Rome scholarships in Architecture, Painting, and Sculpture are awarded this year for the first time, the scholarships being of the annual value of £200 and are tenable for three years. Of the architectural work submitted, the finest designs are those of Mr. H. C. Bradshaw, the winner; Mr. Louis de Soissons, who was awarded the Jarvis Studentship by the Royal Institute of British Architects; and those of Mr. Ernest Cormier, whose design shows very marked French influence. We propose to refer to the designs submitted at greater lengths in a subsequent issue. Naturally, the work being that of students, we expect and find evidence of immaturity; but, taken as a whole, it is of a high order and free from eccentricity, and, we think, gives us every reason to hope that work of the English School at Rome will have a beneficial influence on future architectural development in this country. The preliminary subject of design was a Technical University, the final subject set a City Centre or Forum, and both sets of designs are on view. Some of the sculpture submitted is remarkably fine, the winner, Mr. Gilbert Ledward, giving promise of brilliant future achievements. Mr. Charles S. Jagger's work may also be mentioned for its excellence.

A London Estate Sale.

ONE of the largest real estate transactions, if not the largest ever known, is the reported purchase by Mr. Mallaby-Deeley of a great part of the Duke of Bedford's London estates, being the southern half of the Duke's property, for a sum which is stated as being approximately three million pounds. We do not know whether the transaction indicates anything beyond the fact that the Duke prefers money to land and Mr. Mallaby-Deeley prefers land to money. The Duke is reported to have been induced to carry out the transaction through his uncertainty as to the probable trend of legislation affecting land; but, if this indicates want of confidence in the future, we have as a set-off the confidence shown by the purchaser, so the situation resembles a drawn game. To the Duke's former tenants the transfer may or may not make a difference. It may be said "to Amurath Amurath succeeds," and naturally the purchaser will be bound by the covenants and leases in force, and no one can know whether the tenants will in future be better or worse off than they were under the benevolent sway of the Duke, who has always had the reputation of being among the best of the great landowners of England. It really only means a difference in the colour of the map and the substitution of a new name for the ancestral one of one of the greatest of English families.

An African Competition.

WE understand from the *African Architect*, the Journal of the Association of Transvaal Architects, that "a wave of indignation is passing over the profession throughout the Union at the tone of the assessors' report on the competition for the proposed new house for the Governor-General at Cape Town," and meetings are being held to discuss the subject with a view to making a united protest against the statements made in the report. Our contemporary states that the question arising out of this special case is a much wider one than that of a single competition, and affects the whole system under which Government buildings are erected in South Africa. We are told that the majority award of the assessors employed to adjudicate in the competitions for a new Railway Station and General Post Office for Pretoria, which were instituted by the late Government, was such that the competitions were rendered abortive, and in the case of the Post Office unpremiated designs were purchased by the Government and carried out by the Public Works Department, while in the case of the Railway Station one of the majority assessors was himself employed to carry out the work! Our contemporary says that competition for public buildings has fallen into disuse, and that they are entrusted to a salaried Department of Works, with the exception of special cases, where one of the assessors has himself acted as architect. In the case in point the assessors have reported that in none of the thirty-three designs issued has the problem been solved, and recommend that the house should not be built from any one of the designs as it is. The question as to whether the premiums should be withheld is, we learn, still in suspense. Evidently either the architects of South Africa fail to attain to a high standard or competitions are imperfectly conducted there—we do not know which.

Warrington and Competition.

WARRINGTON does not seem to be in need of a theatre as long as the present Town Council is in existence. The report of their recent meeting is one of the most humorous things we have read for a long time, and we feel that only a little appropriate action is wanted to fit it for any stage. It is now suggested that local architects alone should be invited to compete for schools in Lovely-lane (we may say we are glad that such lanes exist in Warrington). Alderman Bennett thought that the architects would not be willing to miss the order; if he were an architect he should certainly have a jolly good try for it, and in any case their labour would not be entirely lost because they would get a solatium of ten guineas, whether they were successful or not. He thought they would find more than half a dozen architects in Warrington who would compete, the competition would be an interesting one, and they would get the best possible results. If he were going to build a cathedral he would say, "Let us have a national competition for a man with Titanic ability," but to build a school at Warrington was a simple matter. To hold an open competition for such a building was bringing a steam-hammer to crush a nut, a calling of the world to witness they were going to build a few walls and a roof or two. If their architects were unable to build schools for them their names ought not to be on the roll at all. Councillor Roberts was astounded at these remarks. To liken the building of a school in which 1,000 to 1,500 children were to be taught for years to a place consisting of a few brick walls and a roof, from such an æsthetic disciple, fairly staggered him. To his mind, these utterances were the most abominable he had ever heard from Mr. Bennett in the Council Chamber. Mr. Bennett explained that his remarks were ironical; he thought the Committee were willing to be satisfied with walls and roofs, but he himself wished to go further. Another member suggested that the Council were taking the downward path leading to destruction in departing from the principle of open competition for the designing of schools, while insisting on open competition for staffing them; and, an amendment being put, it was lost by nine votes as against ten. We are afraid that, reading between the lines of this most excellent and amusing discussion, we are struck by the fact that the general public even at Warrington do not entirely understand architectural questions or the value of an architect's time, which we believe would in some cases be such that even ten guineas would not be an entirely satisfactory recompense for the labour involved in designing a large school.

The Gold Medal Year at the Academy.

THE subject for the Gold Medal this year was a "Town Hall for an Important City," the medal being awarded to Mr. David John Chisholm, whose design we shall illustrate next week. The general level of the architectural work submitted is a good one, the Academy work showing the influence of the general wave of enthusiasm for architectural education which is passing over the country, and which will, we confidently expect, result in an improvement of our national architecture. Among other designs submitted we may mention No. 191 as being among the best. No. 192 is somewhat theatrical and grandiose—a common failing of designers whose enthusiasm is, as yet, untempered by experience. No. 189 is another good design. The Silver Medal drawings of the West Front of St. Mary-le-Strand, by Mr. H. C. Mason, are excellent, and among other work which we noticed is an architectural design with coloured decoration, "The Ceiling of a Great Hall," for which a Silver Medal has been awarded to Mr. Geoffry Philip A. Fildes. We have often thought that it would be a good plan to give students the subject of an ordinary architectural competition after the designs had been sent in, and see what they could make of it with the assistance of the premiated designs. It would bring them into touch with realities in a way that mere academic subjects do not, and the designs submitted would relieve the student from the necessity of thinking out every part of the design of a great building—often an almost impossible task for a student—and would enable him to concentrate his thoughts on design purely and simply, which might be a better exercise. It would also have an interest for those who had taken part in the particular competition in question, for who of us is there who sees a winning design without thinking he would have liked to develop the same idea had it occurred to him? We believe a good deal of a student's time might be better spent in this way than in attempting to solve some of the ideal subjects which are usually set.

"CHARTERED ARCHITECTS?"

WE have received the following article from a correspondent, and we have reason to think that it accurately represents the views of a large number of members of the Institute:—

In these days of miltant politics, of strikes and organised resistance to laws, it is perhaps too much to expect that the placid backwaters of the architectural world should escape every ripple of disturbance. But the academic grove of Conduit-street is not agitated to increase professional fees. Alone among trade unions, we care so little about them that a proposal for raising our wretched pittances did not even muster a quorum at the Institute a few weeks ago. Rather must we find a parallel for our position in the drilling of the revolutionaries who are prepared to make any sacrifice to oppose a measure promoted by well-meaning politicians solely in the interests of a certain unhappy island. But whereas the Orangemen have raised their standard against a principle they have always hated, our domestic rebels are said to be attacking a movement which has been inaugurated of their own choice and for their especial protection.

Such is the phenomenon apparent to any detached person who was present at the remarkable meeting of the R.I.B.A. on the first of this month—an enormous crowd of members eagerly listening to a debate on proposals for professional Registration, and showing without any disguise a considerable amount of hostile feeling to the terms of these proposals.

What are the facts which have brought about so extraordinary a state of affairs? So far as we can let us view these matters in an impartial light, free from any bias in favour of either faction. There is presumably no architect in this country who has not heard of the laudable efforts on the part of all responsible architectural bodies to obtain a measure of Registration for our profession. The topic has been discussed for years, almost for generations, and recently has been pushed forward by the R.I.B.A. with redoubled vigour. Several Bills have been drafted, a great deal of money has been spent, many eminent architects have devoted a great deal of valuable time very unselfishly in this cause, and, it need hardly be added, certain legal luminaries have added to their slender fortunes. Lastly, the ranks of the Institute have been swelled by some two thousand members who, as we are constantly reminded, are not members, whose humble office is theoretically limited to being within the fold when they are wanted.

All this has been done with a view to Registration at an early date. And now comes a new factor in the situation. We are told, in so many words, that Registration is impossible, that it is as impossible as it always has been—we hesitate to add, "as it always will be." But the Institute is responsibly advised that all or most of this work is wasted, that we are little nearer the goal than we were, and, most curious of all, that we are not pursuing the right policy. From the mass of evidence now in the hands of R.I.B.A. members, some of it rather incoherent, it appears that our latest Bill has not and never had any chance of becoming law. Such is the opinion undoubtedly held by the great majority of the members who have to rely on the printed evidence supplied to them, and such it will remain unless further light is thrown on the proceedings at the adjourned meeting on January 5. The whole object of the amendment so brilliantly introduced at the last meeting was to obtain further information on these negotiations. But even when the facts are supplied, the most important of them in the form of singularly truncated notes, the position is very far from clear to those who have not had the advantage of a legal education. We cannot yet understand why the Council have not been warned at a much earlier stage that their efforts were likely to be fruitless. It appears altogether unjust that a number of men whose time is very valuable should have been kept in the dark as to the ultimate results of their long labours in the elaborate mechanism of our overladen Parliament. And, as we have already said, members of the Institute are becoming interested as to the value of advice which has been sought outside the profession. The architects have worked self-sacrificingly for nothing, the others have not.

But interest in the Registration question is not confined to the exploits of the past. The excitement of the meeting on December 1 was chiefly aroused by the Institute's proposals for the future. And this is where a need for great moderation of statement is desirable. Moderation was fortunately a characteristic of the debate, although it was obvious from sundry bursts of applause that feeling ran high. In brief, the Council ask for leave to proceed with an entirely new charter, the object of which eventually may be construed as the "removing of disabilities" of Associates and of Licentiates. Curiously enough, the Associates seem to regard their disabilities as comparatively negligible, while they oppose any extension of the franchise to Licentiates with the utmost ferocity. The jealousy between the different classes of members (and non-members) of the Institute must indeed seem parochial to the public, if it should be interested in these things. But the fact remains that, in the opinion of the Council Registration has no chance of becoming law unless the profession can become better organised, and that as a first step towards this consummation they recommend a new charter which will give a vote or rather a fraction of a vote to every Licentiate.

Why do the Associates as a class, and many Fellows—possibly a majority—take so pronounced a view as to this other class of their professional brethren? In the first place, we think, because they have consistently opposed the creation of Licentiates ever since the beginning of the movement. They contended then, and they apparently contend still, that it was illogical of the R.I.B.A. to set up a very high standard of professional ability for the Associate diploma on the one side and to go cap-in-hand into the highways and hedges on the other, begging the halt and maimed and blind to come within their hospitable doors. To the outsider it matters very little whether a man's name is decorated with the mysterious initials F.R.I.B.A., A.R.I.B.A., or L.R.I.B.A. (for such is the form the Licentiate's hard-won distinction usually takes in this undisciplined land). To the client potential or actual all are tarred with the same brush.

The Associate, on the other hand, looks at the cabalistic letters differently. His diploma has meant to him many years of patient work. In a world of stern competition he has realised that it is to his advantage to bear a testimony of qualification in every branch of the difficult craft to which he has devoted his life. The value of such a diploma is, or used to be, enhanced by its comparative distinction. It signifies a proficiency above the common level in examinations conducted by those most versed in the needs and knowledge of the profession.

It was a realisation of the unfairness of promoting many less competent persons to the higher rank of Fellow that led to the recent closing of that class except by promotion from Associate rank—a notable victory for the Associates as a body and an entirely politic move.

The advent of the Licentiate heralded a whole host of objections from Associates, who saw in the innovation an insidious menace to their position. It was galling that an army of men who had jeered at their more industrious or less fortunately-born companions for toiling through the Institute curriculum should now be welcomed with open arms. Speaking for ourselves, we think that the Licentiate has, in many cases, been misrepresented. It is only natural that a man whose practice has, metaphorically, flung itself at his feet before he could step out of his cradle should find himself far too busy with actual building to submit himself to the lengthy routine of examinations. There are several such, possibly many, among Licentiates, and their position, if not laudable, is at least human. But for every one of these there are many others who have been too lazy to sit for examinations, and more still who never could have passed them in their most inspired moments.

We do not wish to force a comparison between different classes of those connected with the Institute, nor to gird against the Licentiate class now that it has been created. There will always be critics who will say that examinations in architecture, as in everything else, are perfectly useless, that the best architects have always been so successful from the beginning that they have never had a moment to think about "architecture," that the Institute examinations are absurdly theoretical, and, in fact, that it is only a fool who ever distinguishes himself in such tests. If one meets such a critic—and most of us have done so—the cause of his fulminating is generally obvious enough and needs no explanation here. The curriculum for the R.I.B.A. diploma represents the considered requirements of the most accomplished men in the profession, all architects who have won their spurs in face of competition. For the average young man entering on his career there is no doubt at all that a course of study for a diploma is of inestimable value, and the diploma itself is, or was, a necessary qualification. One cannot legislate for the minority. There may be many a dazzling genius among the Licentiates with strong convictions against the examination system; there may be others with a supply of influential uncles who render any qualification superfluous; but for the average architect his brains are his most useful weapon, and the incredulity of a materialistic age requires that the sharpness of the weapon must be recognised by some more authoritative body than his own family circle.

However, the Associates were finally placated by a promise that the Licentiate was not a member of the Institute and could not vote. It is the proposed removal of these so-called "disabilities" which has raised such a storm of protest. There was some talk of "making sacrifices for the greater good" at the meeting in question, and we think that, in the event of a clear road to Registration being opened, it is the manifest duty of every Associate to stifle his very natural resentment and support the Council with all his power.

But is the road clear? If the "disabilities" of Licentiates are removed, shall we see the millennium? Will not the next expert advice to the Council suggest that the Institute should still further broaden its base till the votes of Associates and Fellows are swamped by the suffrages of the unlettered and the quacks?

There has been in journalistic circles a too frequent use of the phrase, "the thin end of the wedge." There is such a fear at the back of many men's minds, Fellows and Associates alike. A sacrifice for Registration is one thing, a sacrifice of all dignity and tradition a very different matter. A perusal of the replies of the allied societies to the Institute's referendum does not seem to indicate a mandate for the change. Some are still considering the question. Some of the most influential societies favour the abandonment of the Bill and say nothing of a new charter. Others again send replies which hardly seem pertinent to the question of the charter.

To ensure the confidence of their members at the next meeting it rests with the Council of the Institute to prove that the drastic changes they propose are reasonably likely to be justified, and that the whole body need not be dragged through the mud before the goal is reached.

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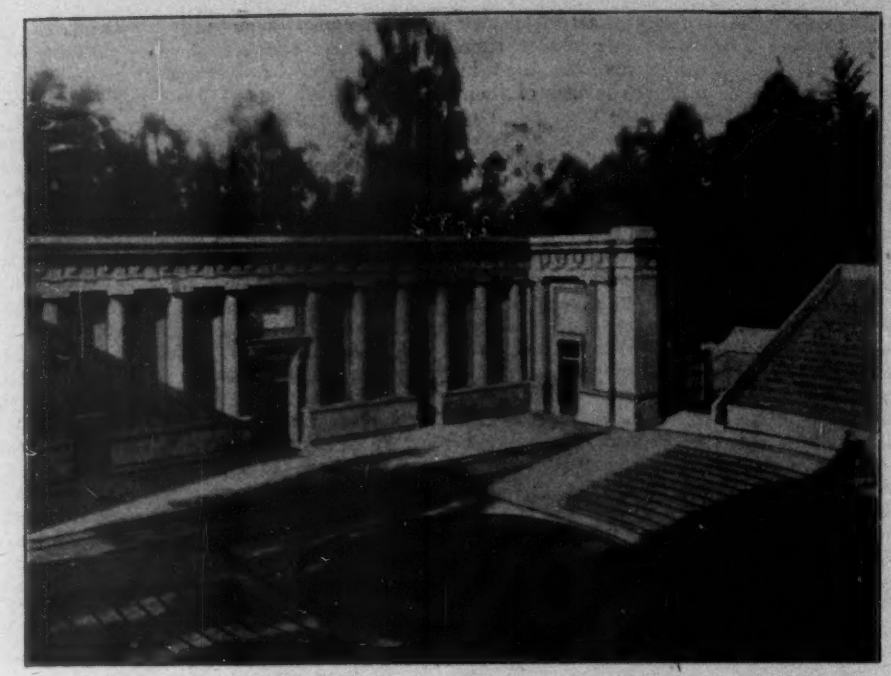


Greek Theatre for the University of California.

Mr. J. Galen Howard, Architect.

(From the *Architectural Record*, New York.)

SOME RECENT BUILDINGS IN CALIFORNIA.

At the time of the last Chicago Exhibition the character of the buildings erected aroused much comment in the artistic world. Contrary to expectation, it was said it was in America that architecture was being produced which showed the greatest respect for traditional development, while the most recent exhibition held in Paris showed, comparatively speaking, a marked effort among architects to strike a new note in design. The work of Messrs. McKim, Mead, & White was remarkable, even as compared with other of the best work in America, for restraint in design, and it is pleasing to note that, though Charles McKim and Stanford White are no longer with the living, the spirit of restraint and moderation which their work pre-eminently showed distinguishes much of the contemporary work of America, rendering it a fruitful field for the study of European designers.

America in this respect teaches us that personality and character can control design in spite of the adverse conditions under which much modern design has to be produced —the necessity for speed in erection, commercial requirements, and the general ignorance and apathy of the public. For in this respect the nations which compose our modern world are alike, only in America architects have taken a wider and broader view of their duties than elsewhere, and by their careful study of the past and analysis of the meaning of architecture, combined with that element of practical ability which distinguishes them as a race, have impressed their fellow-countrymen as being safe, practical guides. So that nowhere in the modern world does architecture hold a higher place, because its exponents can command the respect which is in the end given to those who can prove themselves in the practical tests of life.

It must in justice be added that the common sense which distinguishes the American people is a help to the architect. With us we frequently hear the expression used, "I don't know anything about architecture, but I know what I like," the uttered or mental addition being, "and I mean to have it." In America, on the other hand, there is little or no pride in ignorance, and a client frequently places himself in the hands of an architect, telling him that he does not know what he should have, but leaves it to the architect to give him the best, so that the American architect frequently starts work under better conditions than his *confrère* in this country.

The illustrations we give of several houses recently erected in California are admirable examples of quiet, dignified, and refined design, which show, to our mind, better than columns of writing how thoroughly the lessons of the past have been learnt in America.

In our view they illustrate the advantage and result of the thorough system of study which characterises the best American work, and which is too often absent from our own work here.

Of a different nature, but equally delightful, is the exquisite little Greek theatre for the University of California, which has been designed by Mr. John Galen Howard, our view of which shows the proscenium wall, stage, and tiers of seating beyond.

We also give some views of the First Church of Christ, Scientist, at Los Angeles, California, by Mr. Elmer Grey, which we illustrate by plans, a general view, and a detailed view of part of the loggia.

This design shows the manner in which the best American architects deal with novel requirements in planning and the pleasing use of brickwork in design.

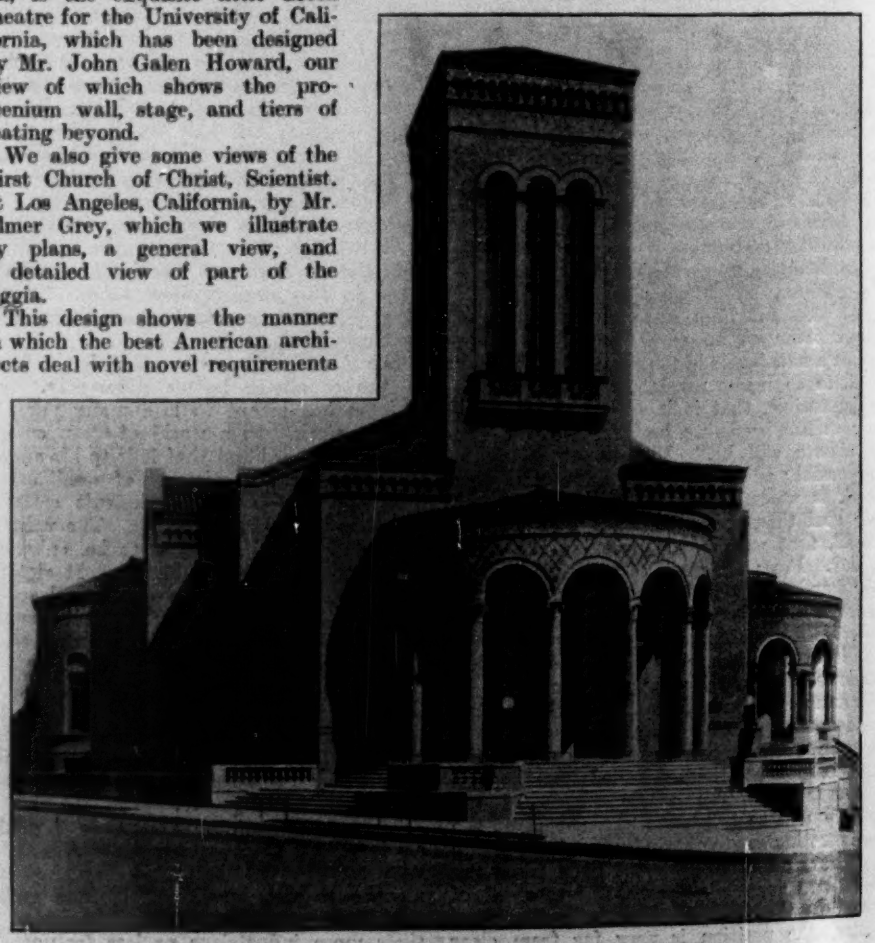
Further illustrations show a terraced garden and National Bank, from the design of Mr. Willis Polk, an architect whose work holds a deservedly high place among the ranks of the younger American architects.

In all the foregoing work, which we reproduce from the pages of the *Architectural Record*, of New York, the same qualities of quietness and absolute avoidance of a wish to make a display are apparent, and there is in all of it an element of comprehension of the nature of architectural excellence which we should like to see more of here.

We feel that such work will stand the test of time and will continue to please, for there is about it no wish to impress by mere cleverness, no desire to startle by the employment of unexpected detail.

The curse of much of our design is the apparent underlying wish to impress by a display of originality, and the mind which is saturated, as we may say is too often the case, with this wish will overlook the main essentials of dignity and repose, which are essentials of the best architecture.

The one thing which will enable us to produce architecture which will appeal to the public as being great is to eliminate all thought of that public save as people having practical requirements which have to be met. For the rest, we should know our detail so well as to think of it unconsciously, and then we shall be able to produce the best, and if this be done we shall earn a position in the public estimation which cannot be ours if we are repeating a half-learnt part with an eye on the gallery all the while. The really great architect is too interested in his subject to estimate his own value, while the man who is continually weighing and measuring his own attainments forgets that in the nature of things he can never know what either he or his work is worth, as he is unconsciously loading the dice with which he is himself playing.



General View, First Church of Christ, Scientist, Los Angeles, Cal.

Mr. Elmer Grey, Architect.

(From the *Architectural Record*, New York.)

What is sufficiently good will in reality always appeal to the public as being new, for the last thing we can ever get in great quantity is excellence, which therefore will be to the end of time the greatest novelty of all.

THE usual fortnightly sitting of the Royal Institute of British Architects was held at No. 9, Conduit-street, W., on Monday, when Mr. Geo. Hubbard took the chair.

The Secretary announced that the Council had nominated Viscount Milner as an honorary member.

The Chairman moved the confirmation of the resolution passed at the last meeting with reference to the transfer to the Institute of property now vested in the Architectural Union.

Mr. W. Woodward (Chairman of the Finance Committee) seconded the motion and it was carried.

THE REPAIR OF ANCIENT BUILDINGS.

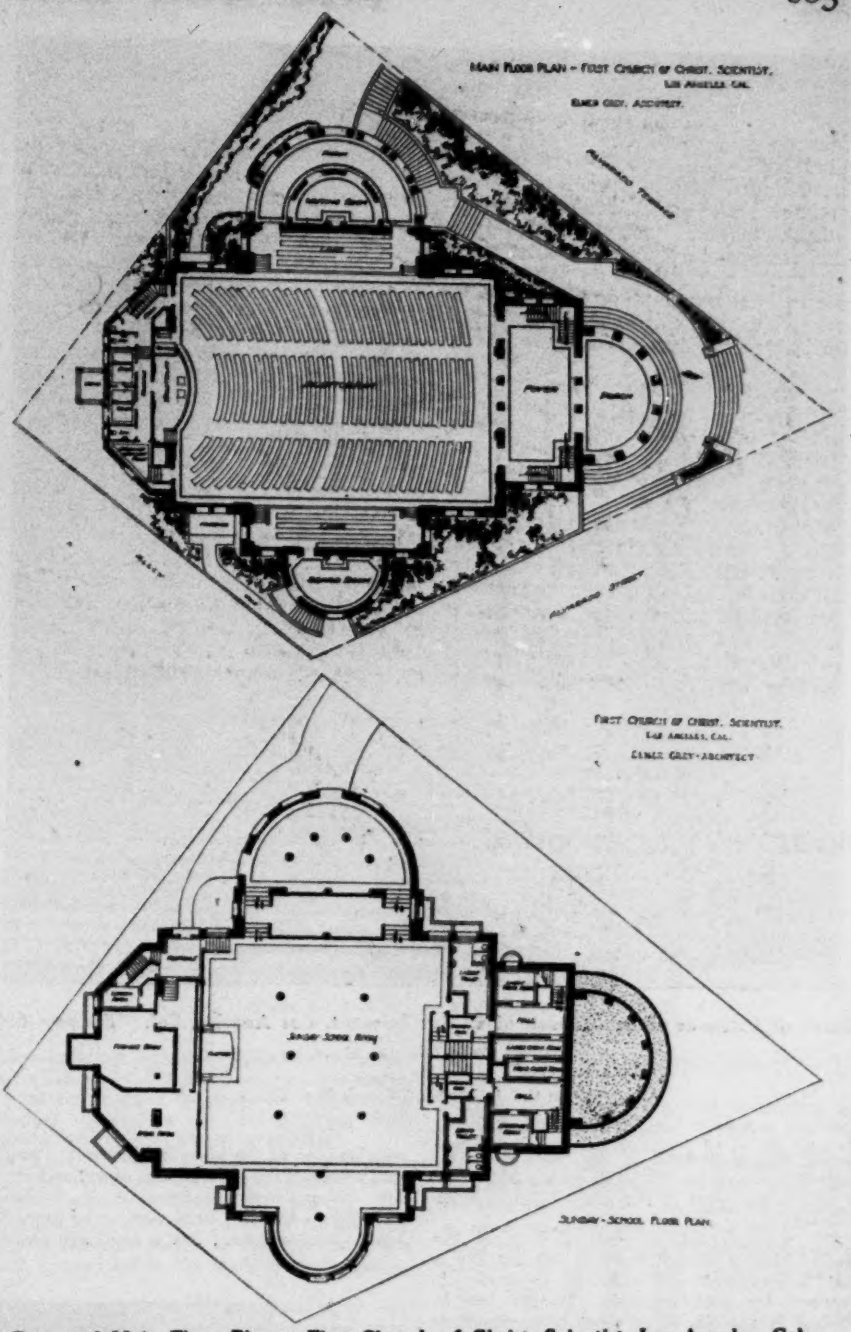
Mr. W. A. Forsyth then read a paper on "The Repair of Ancient Buildings," of which the following is an abstract.

Mr. Forsyth said: It is not necessary to remind ourselves of the desirability of preserving works of past ages for their historic interest or æsthetic value; nor that it is imperative that we should study the methods whereby our ancestors adapted their structures to the demands of living or worship, and to resist the destructive influences of the climate. That is an aspect upon which all are agreed, and it is the foundation upon which the subsequent consideration of the subject should be based.

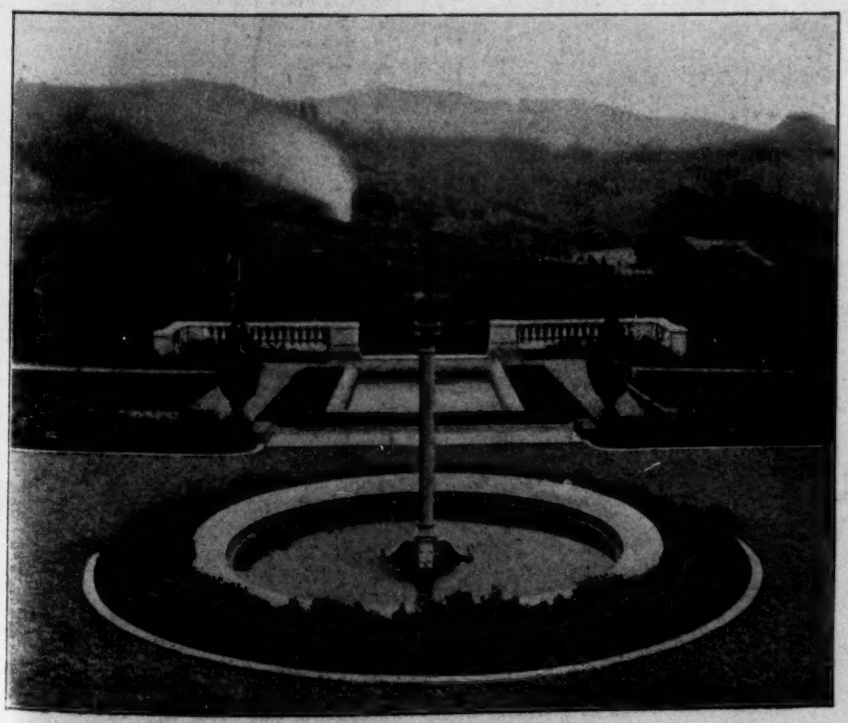
New legislation in this country is invariably the development of old laws. The recently-passed Ancient Monuments Consolidation and Amendment Act is such a measure, and, although hastened by the scares of transatlantic exports from Britain, is a cautious advance into the domain of private ownership in national monuments. The Act permits the purchase or acceptance by the Government of an historic monument, and provides for its upkeep. When a work of national importance is in a state of neglect, and decay is threatened, a preservation order can be applied for, and, under certain conditions, put in force.

It cannot be contended that British legislation has reached finality in legislation; yet it is hoped that the necessity will not arise for many years to come when cathedrals and churches in regular use shall come within the range of some authoritative preservation other than ecclesiastical. Some urgent organisation is required, in order that the requirements of the clergy, who are but the temporary custodians of their churches, should be considered and their fulfilment supervised by some properly-constituted authority. A diocesan scheme lends itself to this purpose, but the present customs in the matters of granting faculties and supervising the performance of works is in need of considerable amendment. The custom of giving to structural alterations or decorative additions a memorial character is one which impedes repair and alteration in ancient ecclesiastical buildings.

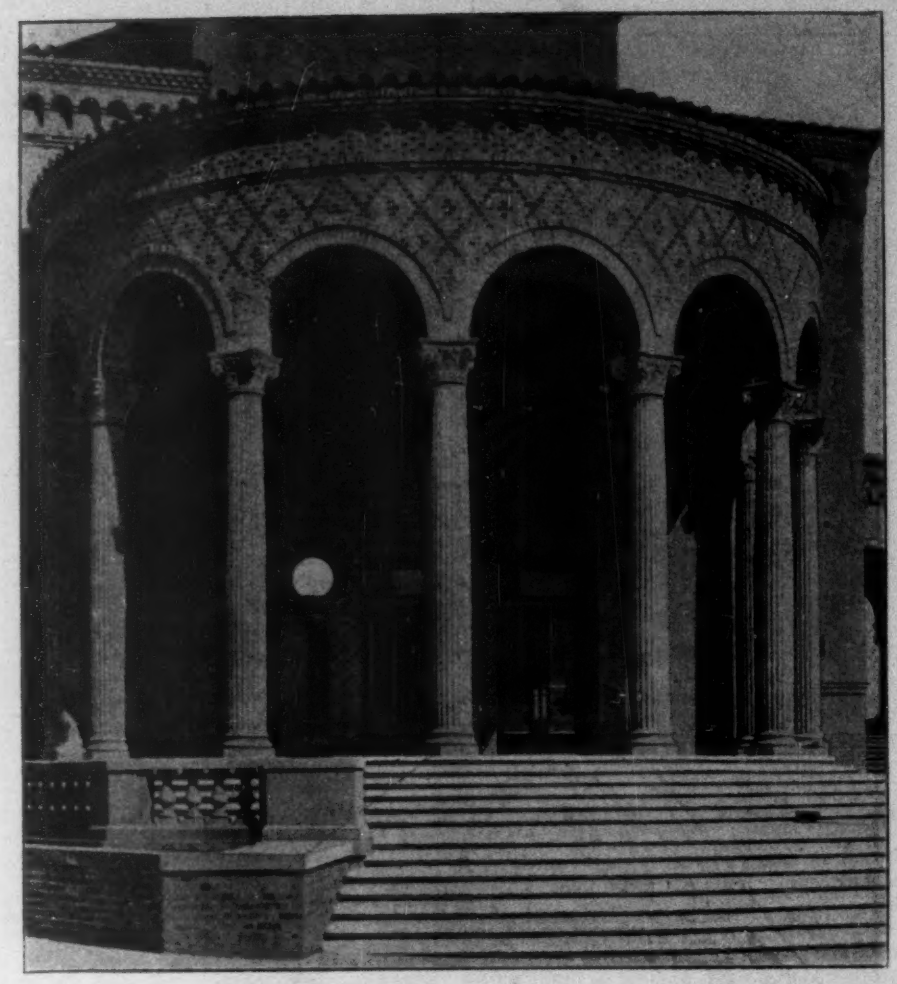
The Town Planning Act of our own time recognises ancient monuments; the realisation of a municipal lay-out may be affected by the position of an historic building. Here is a matter of congratulation to architects; but,


MAIN FLOOR PLAN - FIRST CHURCH OF CHRIST, SCIENTIST,
LOS ANGELES, CAL.
ELMER GREY, ARCHITECT.
FIRST CHURCH OF CHRIST, SCIENTIST,
LOS ANGELES, CAL.
ELMER GREY - ARCHITECT
SUNDAY-SCHOOL FLOOR PLAN

Base and Main Floor Plans: First Church of Christ, Scientist, Los Angeles, Cal.
Mr. Elmer Grey, Architect.
(From the *Architectural Record*, New York.)



Terraced Garden, Piedmont, Cal.
Messrs. Willis Polk & Co., Architects.
(From the *Architectural Record*, New York.)



Detail of Entrance: First Church of Christ, Scientist, Los Angeles, Cal. (*See page* 664.)

Mr. Elmer Grey, Architect.

(From the *Architectural Record*, New York.)

having rescued a work of the past, it is important that any repairs be of such a nature as to secure the spirit of the early builders from destruction.

The fundamental principle underlying the preservation of ancient work in this country is that independent and sufficient treatment is required for each example. Danger lies in placing in the hands of great Government or ecclesiastical bodies the care and maintenance of these varied remains of the arts of past ages. However well organised and administered, and however competent the authority may be, the effect of such system is liable to have injurious results upon those interests and values which we seek to conserve. The element of personal responsibility is sunk in the depths of departmental procedure. The system is proof against criticism and suggestion.

This aspect of our subject is especially important, in view of the operation of the recently-enacted laws, whereby so many more old buildings in a state of disrepair are being handed over to official charge. The initial repair of these works is of the utmost importance, and no undue speed or want of supervision should attend them at this time.

In general as to repairs the architect is consulted in order to determine the actual safety and probable endurance of an old building, so that steps may be taken to prolong its life. Everything shall be maintained that is sound, and repaired where weak, that will declare the history or the evolution of the building, apart from all consideration of taste or fashion, and, in most cases, of convenience, in order to prolong the uses to which the building has been put and from which it derives its interest.

It is no great hardship to adapt current modes of living to the domestic limitations of a seventeenth-century dwelling. A mediæval church having served the needs of a community for six hundred years should require no structural change to meet any twentieth-century ideas in ritual or ceremony. But where enlargement is necessary to meet the growth of a congregation and maintain the uses of the fabric then let all extensions be honest and sympathetic, and not imitative. Therefore, all reparation should be directed to the maintenance and continuance of the historical account. Repairs and renewals are part of that story, and should be self-expressive. Pressure is frequently brought to bear by employers or by promoters upon their advisers; but a rigid adherence to this general principle will save many an ancient monument from a process of falsification which may never thereafter be detected. The importation of all ancient fittings or features to the building under repair should be discouraged. When unavoidable some documentary or other record should be made.

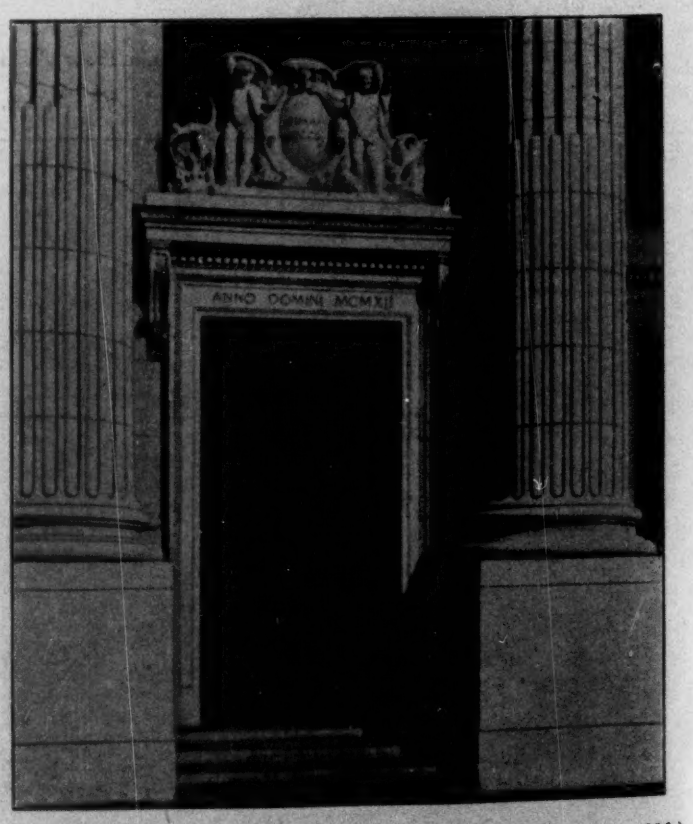
It is the proud boast of certain architects and builders that their new work cannot be distinguished from the old. This is an unfortunate principle, as, although a harsh note may thereby be avoided by this precise imitation, nevertheless distinctive methods may be yet employed which are both sympathetic and sound.

With regard to the business arrangements applicable to works of repair, agreements are necessary, although contracts in the ordinary acceptation of the term, based upon tenders, are undesirable. It may be possible to estimate the value of a new building, but it is highly improbable that the full nature or extent of repairs or alterations of old buildings can reasonably be anticipated. In the latter types of work there is so much risk in venturing upon a contract sum that waste or hardship may fall upon either of the contracting parties.

It is essentially desirable that where possible all reparation works be not subject to limits in time or outlay. I know of no better system than that all labour, plant, and materials should be hired or purchased by a builder or by a representative of the employer. All statements of rates of pay and hours of work of the operatives, together with all invoices of materials bought or plant hired, should be rendered by the builder to the employer weekly or monthly, as the case may be. To these sums shall be added the proportion or percentage rate due to the builder for his organisation.

The financial arrangements between the employer and his agent, the architect, are not herein involved.

In cases, however, where the architect, still acting as the agent of the employer, undertakes the general advice and superintendence, and, in addition, engages the workmen, buys plant and materials, and renders periodical accounts for payment, a special form of agreement defining the relative positions and responsibilities of all parties is of the utmost importance. Architects should, as far as possible, decline such conditions, for not only are the financial risks to be avoided, but the comprehensive position of adviser, builder, and supervisor is untenable, and one which tends to eliminate that element of responsibility which is so necessary in these operations of building.



Entrance Detail of National Bank, Sacramento, Cal. (*See page* 664.)

Messrs. Willis Polk & Co., Architects.

(From the *Architectural Record*, New York.)

In effect, agreements should be clear, yet comprehensive, setting out in simple language that the builder agrees to build and the employer binds himself to pay, upon terms and conditions laid down by the architect.

It cannot be urged too often that reasonable time is required for the efficient execution of repairs. It must be admitted that, apart from other influences, the survival of ancient works is, in a great measure, due to the actual duration of building operations. Apart from records, this fact is seen in the development of the styles of churches and houses.

Repairs must be permanent in their intention. It should be remembered that no sound work should be disturbed, although repairs may be anticipated in a few years' time. Repairs to walls cannot be hurried, and must be executed in a wet state, and allowed to set before receiving weights, thrusts, or other forces inducing movement. Roof and floor timbers having been exposed to the rains must have reasonable time to return to their normal seasoned state when the roof coverings are finished.

Plastering should then be not unduly delayed, but a long setting period allowed. Strong draughts should be excluded, as well as heat and other elements inducing rapid setting.

The use of mortar in frosty weather is attended with risks. Cement is not affected to the same extent as limes.

Shoring is required to support walls or roofs subject to movement or collapse, and cannot be too carefully or promptly undertaken; much damage is done by the careless handling of timbers. Arches and other openings will require centring, which should be designed to counteract the thrusts which have caused failures in the structure.

A raking or flying shore employed to buttress a building where repairs will occupy a long period of time should have solid concrete sills, so that the timbering be not affected by soil movement and that greater and more permanent abutment be secured.

Needling must be carefully undertaken, and where the old displaced bricks or stones cannot be replaced the repair should be carried out with different materials, in order to record the disturbance and the extent of the work. Shoring should be allowed to stand for a long period before being eased or struck.

When effectually shored it is frequently desirable that the walls of a building be grouted before underpinning or other works are attempted.

All shoring which will probably be left in position for a considerable period should be limewashed, in order that it be more easily seen and that the timber be preserved.

No greater advance has been made in the repairing processes in recent years than in that of grouting. Many a condemned building has been saved and many a weak structure made sound by means of this, and more particularly when used under pressure.

The injurious effects of vibrations upon ancient buildings, especially those having rubble-built walls, due to fast and heavy modern traffic, is a matter of grave importance. The Science Standing Committee is investigating this question with special regard to belfries.

It is to that eminent engineer, Sir Francis Fox, that we owe so much in the recent development of grouting by mechanical pressure. For a detailed account of the history of the grouting machine reference should be made to the paper which he read before the Institute in February, 1908.

Roof protection should be provided to any features such as sculpture, carvings, woodwork, metalwork, and the like, subject to injury or decay by reason of exposure to weather.

All loose features should be firmly built in and wedged up in good mortar, whilst all fallen stones, moulded or otherwise, should be collected and preserved from risk of theft or damage by traffic.

It is most important that scaffolding and plant generally be utilised in such a way as to cause no injury to buildings by its erection and removal. For this purpose it is generally found that an independent scaffold is to be preferred. On first thoughts this type may be thought to be more expensive than the attached kind; but inasmuch as cutting away and reinstating are avoided the relative costs cannot be said to vary appreciably

It is sometimes found that putlog holes remain in ancient walls, in which case an ordinary single scaffold may be used. No new holes should be permitted to be cut. Thirteenth-century flint rubble walls sometimes retain putlog holes, and they are formed in stone or chalk-dressed openings. These are found in stages at intervals similar to those used at the present day. In most cases the intervals of the stages should be adapted to the requirements of the actual work. Old putlog holes or resting-places or ledges should have suitable protection by straw or sack packings.

Various types of modern wood and iron scaffolding are serviceable in the repair of old buildings, but the common is to be preferred to the patent variety. Cradles suspended from high positions are useful and economical in particular cases; but where the repairs involve repeated hoisting and lowering of the plant the cost becomes heavier than ordinary scaffolding. All scaffolds, however, should have means by which architects of all ages and dimensions can easily ascend to and descend from the works in progress.

Although the subject before us is preservation, there are occasions when demolition is to be faced. No effort should be spared in the careful handling and protection of material intended either for reuse or removal. Although the occasion is rare when a rebuilding with old materials is entirely satisfactory, it is essential to mark or number the stones, timbers, and other parts, and to provide due protection.

When the Tattershall Castle fireplaces were taken out an insufficient scaffold was erected, and these priceless carved stones were dropped upon the ground below, causing many of them to be fractured Many of the long stones bonding into the walls were cut off, and other mutilations were perpetrated. It is a matter of national congratulation that these mantel-

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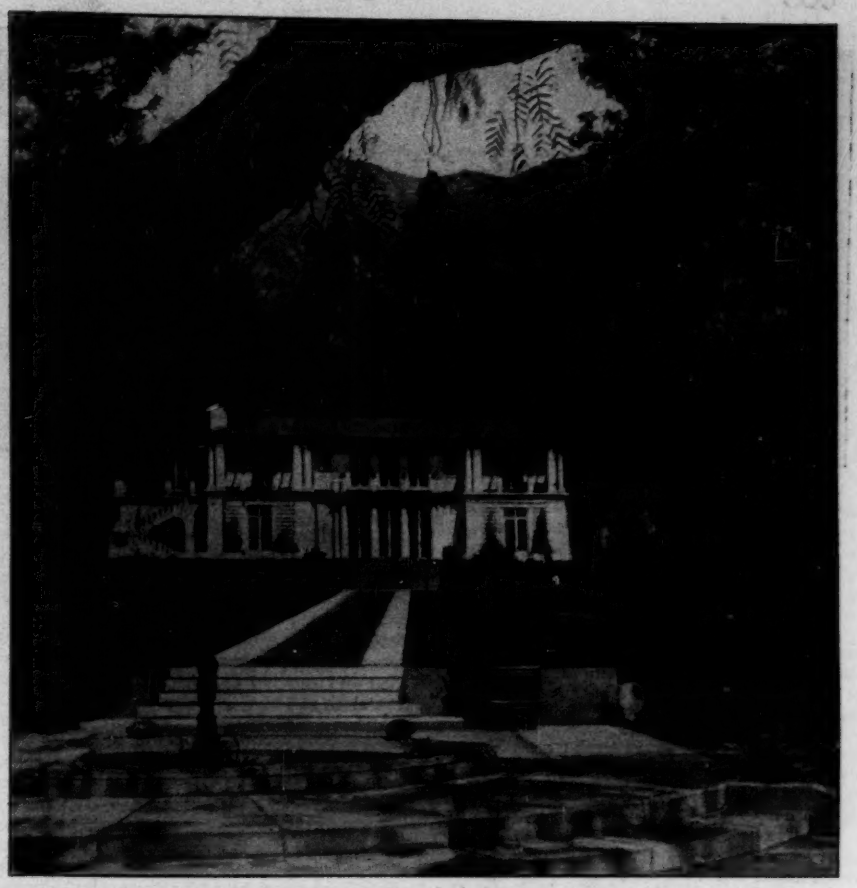
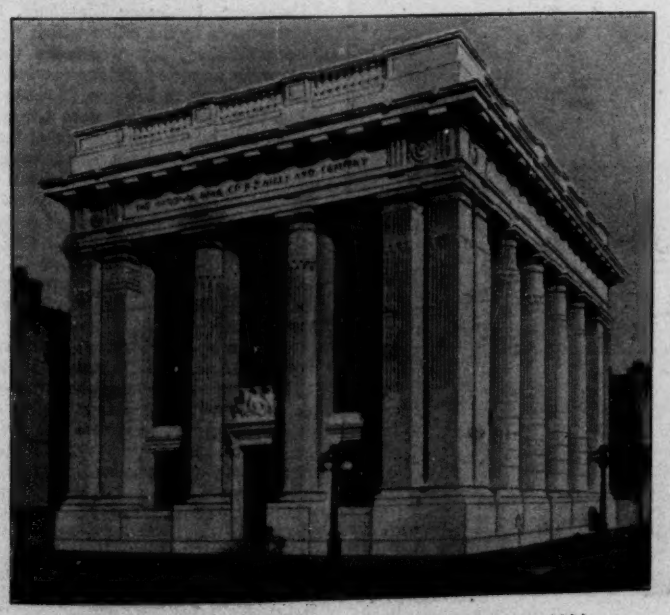


Residence in Sierra Madre, Cal. (*See page* 664.)

Mr. R. David Farquahar, Architect.

(From the *Architectural Record*, New York.)



National Bank, Sacramento, Cal. (*See page* 664.)

Messrs. Willis Polk & Co., Architects.

(From the *Architectural Record*, New York.)

The McNear Residence, Menlo Park, Cal. (*See page* 664.)

Messrs. Bliss & Faville, Architects.

(From the *Architectural Record*, New York.)

pieces have been carefully replaced by Lord Curzon in their original position, and, thanks to the personal supervision given by Mr. Weir, look little the worse for their adventures.

Pulling down should be deferred until the last available moment in cases of necessary alteration or enlargement, in order that hope of retaining the old work be not abandoned until all alternatives have failed.

There is, I think, too great an inclination amongst architects and constructors generally to underpin old buildings, especially those of mediæval date. Rubble walls indicate the action of roof thrusts or undue movements very readily upon the inner and outer surfaces. It is then that underpinning is hastily resorted to, and it frequently happens that the operation has been proved to be unnecessary. It moreover involves risk of disturbance to other parts which are sound. Underpinning is more effectual when undertaken generally rather than partially.

It is remarkable how little apparent consideration was given to foundations of old churches and houses. There is no order or practice in the ancient method of transmitting building weights to the soil. Generally speaking, the footings are quite shallow, and beyond containing large material are usually without definition in the spreadings when such exist. Yet it must be admitted by their simplicity that foundations were well understood by early builders.

Tiles.—The repair of old tile roofs is a matter deserving our caution. Into the numerous methods of laying tiles throughout the country it is not within the intention of these notes to inquire. What is of paramount importance, however, is the quality, and in this respect I would urge the sole use of hand-made sand-faced tiles, to the exclusion of machine-made or pressed materials. This is necessary for durability, apart from the mean thickness and hard lines of the mechanically-produced materials. Reference to this subject is, I feel, desirable in the interests of clients and architects, judging by the many recent failures brought to my notice. A Sub-Committee of the Science Standing Committee is engaged in investigating failures in roofing tiles, and it is to be hoped that an early publication of its findings be made.

Old roofs appear to gain in scale and interest when the repairs are visible. It is not always possible to secure old weathered tiles for repairing ancient roofs. Rough, well-burnt materials should, however, be used, and the tiles should possess considerable "camber," not only in their length, but in the width. They should also have generous substance.

Mr. Forsyth dealt in a comprehensive and thorough manner with the treatment of masonry, walling, pointing, plastering, floors, and other trades, which have to be dealt with in connection with repairs and renovations to old buildings, his paper forming one of the most complete treatises on the subject which we have ever heard, but the regulations of the Institute make it impossible for us to give more than a cursory and brief reference to some of the more interesting parts of a very able paper.

Mr. Lionel Earle

(Permanent Secretary of the Office of Works), in moving a vote of thanks to the lecturer, said that the praise given to the Ancient Monuments branch of his Department was fully deserved. This was largely due to the knowledge, training, and taste of the Chief Inspector, Mr. Peers, and to the remarkable skill, amounting almost to genius, of Mr. Frank Baines, the architect in charge of the branch. He had never received a single protest against the way the Ancient Monuments branch had carried out its repair work, and this was the more remarkable because, as they knew, a Government Department was always fair game to attack, and, further, critics often held very strong but somewhat divergent views on questions involving taste as well as construction. It had been said that there was too much repairing of ancient monuments. That reproach did not apply to the Ancient Monuments branch of his Department. Certain buildings, such as Holyrood, Glasgow Cathedral, Chelsea Hospital, Somerset House, and Edinburgh Castle, had not been under their care. He had, however, now transferred some of these buildings to Mr. Peers's care, and was taking steps to effect the transfer of all such buildings as could be properly classed as ancient monuments, whether in the occupation of the military or of the Government, to the care of Mr. Peers and Mr. Baines. It was not the system that was at fault, but the methods in dealing with them. With a large number of architects in his Department there were naturally men who had not had the expert training which Mr. Peers had had; but none of these buildings which could in any way be classed as ancient monuments were going to be touched without the Ancient Monuments Department placing their hall-mark on any work done. On several occasions Mr. Peers had brought to their notice restorations which, in his opinion, were in excess of what should be done, and in several instances it had been rectified as far as possible. At the present moment in France there was a considerable movement amongst archæological experts to protest strongly against the over-restoration which had been carried out by the Minister of Fine Arts there, and, having travelled widely in France, he certainly thought that the great fault in the past had been over-restoration. In this country, however, their efforts were in a contrary direction. He would be glad to give permission to any member of the Institute to visit the ancient monuments under his care before repair and during repair, for they wanted to carry out their work in the public gaze and receive criticism if they went astray. The Ancient Monuments Consolidation and Amendment Act passed last session had given them much-needed powers to prevent acts of vandalism. His Department had been giving very careful thought to the constitution of the Advisory Boards to be created under that Act for England, Scotland, and Wales, and these were now practically completed. He believed that when the names of the eminent men who had agreed to serve were published, as they would be at no distant date, these Boards would command universal confidence and respect. No name had given him greater satisfaction to put forward than that of their distinguished President, Professor Blomfield. He had three documents in his office which would ultimately be published, but which he was prepared to show to anyone anxious for information. The first dealt with the use of limes and sands for bonding, the second were the general instructions issued to foremen in charge of works of preservation, and the third was a Report upon, and the result of, rough tests undertaken in regard to various stone preservatives. The question of the treatment of decaying stone due to the presence of sulphuric acid in the air had given them much anxiety. They had made numerous experiments, particularly in the Chapter House at Westminster, with Baryta water and other ingredients, but the results had not been satisfactory. This decay of stone was of far-reaching importance in relation to the preservation of ancient monuments, and he had persuaded the Treasury to give him a grant of money for one, two, or three years to institute a scientific inquiry into this matter. He hoped to obtain the services in this connection of Professor Laurie, of Heriot Watt College. He had also moved the Foreign Office to inquire officially of the Governments of France, Germany, Italy, Greece, and America whether any scientist in those countries had ever evolved any treatment to combat this serious evil.

Entrance Detail of Residence, Washington, D.C. (*See page* 664.)

Mr. J. Russell Pope, Architect.

(From the *Architectural Record*, New York.)

Mr. Thackeray Turner,

in seconding the motion, said that no doubt, with this question of the preservation of ancient monuments in the hands of the Government,

they would be treating it in a more serious and wide sense than it had been treated in the past. He was perfectly certain that no building could be properly dealt with on the opinion of one man, and in cases where he had personally to deal with buildings he consulted a number of persons to hear what they had to say upon his point of view. A funny outcome of his work as Secretary of the Society for the Protection of Ancient Buildings was the way that their efforts to get old buildings properly repaired had affected modern architecture, and he was sure that the method of properly repairing ancient buildings was one of the most instructive studies for teaching a man how to build modern buildings. An architect really ought to know every trade employed in building, which, of course, was almost impossible, but for a young architect to work on the repair of ancient buildings done on right lines was the very best education he could possibly have in fitting him to carry out modern buildings properly. Since living in the country he had been building himself, and he found that by living on the job he thought of things which would never have occurred to him had he been sitting in an office with paper before him. He believed it would become the custom in the future for architects to get a good deal more out of the actual work than they had done in the past. People asked why there should be any objection to renewing old work as nearly to the old as possible. Well, a work of art was a work of creation, but a copy was not creation. In copying they were really trying to palm off a building which was not a work of art for what actually was a work of art. Mr. Turner proceeded to criticise severely the replacing of ancient work with new work to imitate the old, and, dealing with St. John's College, Oxford, supported the replacement of the decayed stone with layers of tiles. In so doing he said the architect did no falsification to the old building, the result was more harmonious, and they had more of the spirit of the building than they would had they used new stone.

Sir Francis Fox

first thanked the Institute for having elected him an Hon. Associate, which he took as an expression of their confidence in the work he had endeavoured to carry out. With regard to grouting by pressure which had been recently introduced, the great thing was not to put the cart before the horse. He had seen several lamentable results produced by attacking the underpinning of a building before strengthening the superstructure. The proper thing was to first timber the building to prevent an actual collapse, then to blow out the dust, and so on; then grouting it up; and, lastly, if they wished, underpin it. Very often if they grouted the building, although it was on an unsound foundation, there was no necessity to underpin. He had used "tell-tales" for twenty years, and had come to the conclusion that there was nothing to equal really good well-made Portland cement—generally neat. On a certain building he put on 2,500 "tell-tales," and 1,500 of them had cracked. He was told this was due to the drying of the cement, but it was nothing of the kind. Plaster of Paris he did not advise. Mr. Turner said it was a dangerous thing to rely on a single man for a work, and he (the speaker) considered that a great deal was to be said for the American system of associating an architect and an engineer in a great work.

Mr. Peers

said that Mr. Forsyth had laid down what he called certain fundamental principles with regard to the repair of ancient buildings. They would all agree that any repair should be sufficient, but that was rather begging the question, as they all had different ideas of what sufficiency meant. As to the principle of "independence," he was afraid he did not agree. It was the very last thing in regard to repairs. He was not speaking as a Government official, but he did think that the great harm which had been done in this country had, as a rule, been done by independent restorers. If they were to begin with real fundamental principles they must proceed in this way: If they took an ancient building they had to secure its permanent preservation as far as their skill and the materials of which it was composed would allow; but there were two things they had to consider. Firstly, they must not impair the historical interest of the building, and, further, they must not consider the æsthetic side. Those were the respective functions of the antiquary and the architect. When a building was in need of repair it was in bad health, and something had to be done, and anything they did to it would to a certain extent destroy its history. If they had an old building which had been neglected for years and which was roofless, and which had the mortar gone out of the joints and so on, they had to make that building sound, and in so far as they did so they altered the building as it came to them and they could not help it. If they left the building to decay till it fell down, well and good, but that was not their duty. If some of the repairs of the Office of Works seemed at times brutal, they must consider seriously the reasons why they did them. They had to distinguish between buildings which were still in use and those which were in ruins. Those in use had still a history which was going on, whereas those which were ruined were dead. With the latter class of building they strengthened it by bonding and grouting. When they came to a church or a house still being used they had an entirely different problem to consider. They had to perpetuate the building, but it must be perpetuated as a living building, and one adapted for the use of the present generation; and he certainly thought the history of the present generation had as much right to express itself in the building as the past. That was one of the questions on which Mr. Thackeray Turner and himself would never agree. His feeling was that they must put in what they considered best for the building. The other day he went down to Tattershall, where Mr. Weir was making the Castle habitable. There the windows had lost their tracery, and Mr. Weir was putting in stone tracery, which he (the speaker) considered perfectly right. The objection was raised that a hundred years hence people would say, "Look at this beautiful fifteenth-century window!" They could not legislate for fools, and no one at present was misled by the work of the past. As a matter of fact, Mr. Weir had used a different kind of stone for its lasting properties, and the result was extremely good. Of course, the great point was that of stone decay, and, if they could once preserve the life of old stone, all the other questions would go, but as they could not preserve it they must do something. Mr. Thackeray Turner said they would shock modern susceptibilities if they had put in new stonework on St. John's College, Oxford, but they had also to consider the susceptibilities of those who would come after, and fifty years hence the new stone would look like the old. What the tiles and cement would look like he did not know. His view of St. John's College was that they should not touch a single stone they could avoid, but where the building was absolutely in danger they should put in as good material as they could find. As a matter of fact, there was not an original stone on the front of Westminster Abbey, and if there had been generations of Mr. Turners the front would be all tiles and cement.

The Chairman

said he did not think people who had to carry out restorations should look at it from an æsthetic point of view entirely. After all, what had been put into a building was part of its history, and in ninety-nine cases out of a hundred he thought that history should be left intact. He had a striking instance in his mind where a chapel was adorned with magnificent panelling, and the eminent architect employed moved the carving by Grinling Gibbons and put in his own Gothic work. He did not care whether it was Grinling Gibbons or commonplace work. It all went to make up the history of the building, and in ninety-nine cases out of a hundred should be left alone.

The motion was heartily carried.

Mr. Forsyth,

in reply, said he could have supplied Mr. Earle with protests, but he was so interested in the work of the Office of Works that he did not want to disturb them. He did not think there were deficiencies in the Office of Works, but he felt that if they were going to put buildings, originally erected as separate buildings and with no connection with one another, under a system of repair it would produce unfortunate results unless they went on the right course of independent treatment. By independent treatment he meant that all buildings should have separate treatment. Tattershall Castle had been mentioned, and he suggested that the Institute should invite either Mr. Weir or Lord Curzon to give them an account of the work, which was most interesting.

The Chairman

announced that the adjourned special general meeting for the consideration of the Report of the Council with regard to the statutory Registration of architects would be held on January 5. He had also to announce that a business meeting for the election of members would take place on January 12, and at the same meeting the adjourned consideration of the draft revised schedule of professional charges would be resumed.

ARCHITECTURAL SOCIETIES.

Sheffield Society of Architects and Surveyors: Town Planning.

Mr. P. Abercrombie delivered a lecture to members of the Sheffield Society of Architects and Surveyors, at Sheffield University on the 11th inst., on "The Architectural Aspect of Town Planning." After a brief allusion to examples of Roman and Renaissance town planning, the lecturer remarked that the comparison of Renaissance town planning with ornamental gardening was significant, for there could be little doubt that the influence exercised by gardening on town planning was really great. All the features were evolved in gardens before they became the stock-in-trade of the town-planner. The earliest piece of "popular" town planning in Europe was represented by the Champs Élysées at Paris, which was originally purely a drive through the park for the French King to approach his private garden. When one called to mind the gorgeous effects of the avenues of Paris one was astonished to realise how many of them were purely garden features. Of more purely architectural conceptions the most notable example was the Place de la Concorde. The Rue de Rivoli represented the most autocratic control that had ever been exercised architecturally over a modern street. Of less architectural importance, but of considerable interest, was the town planning of the west end of Berlin carried out by Frederick William I., about the year 1730. The Unter den Linden was a royal garden or park feature incorporated in the town. The plan prepared by Wren for the rebuilding of London avoided the architectural errors both of Berlin and Washington. He did not think any man had produced a better plan in many respects than Wren's plan; it was better than a good many Continental ones. The housing sequel to architectural planning was not manifest during the slow and sedate growth of the eighteenth century, but with the sudden industrial development of the nineteenth century, and in Germany particularly since 1870, it had had disastrous effects. The density of population per inhabited house in Berlin was extraordinarily higher than it was in London, Paris, Liverpool, and Sheffield. The traffic salvation in the English industrial towns had been found in the old country roads, which had given at least some lines of guidance in the building of the towns. The lecturer said that with the passing of the Town Planning Act a new era had opened for the future of English town development. If the architectural profession was left out in this matter he thought the profession was itself to blame. Housing, too, was drifting out of the hands of the architects, and he thought for the sake of the country in general it was a pity that architects had not some say in the matter.

The Leeds and Yorkshire Architectural Society.

A general meeting of this Society was held at the Leeds Institute on Thursday, December 11. Mr. G. Fredk. Bowman occupied the chair. A paper, illustrated by lantern slides, was given by Mr. T. E. Eccles, F.R.I.B.A., of Liverpool, the subject being "A Holiday in the Val d'Aostoa" (Northern Italy). The route described extended from Martigny, by way of Oresiere and St. Bernard's Pass, over the Alps, and down the Val d'Aostoa, by way of Ivrea, Biella, Orofa, Vezelay, Novara, and finishing at Dijon. The slides depicted many excellent compositions from a pictorial point of view, and included examples of architectural work of a high standard. The meeting was well attended, and concluded with a hearty vote of thanks to the lecturer by Mr. G. W. Smithson, A.R.I.B.A., seconded by Mr. H. S. Chorley, F.R.I.B.A.

Glasgow Institute of Architects.

The quarterly general meeting of the Institute was held on the 10th inst. in the Secretary's chambers, 115, St. Vincent-street, Mr. A. N. Paterson, A.R.S.A., President, in the

chair. The Secretary reported the proceedings of the Council with regard to the matters dealt with since the previous general meeting. The following were the principal items:—(1) Laying-out of Cathedral-square; (2) correspondence with the Town Clerk in regard to proposed new bridges over the Clyde and the Kelvin, alterations at the Tron Steeple and new tramway shelters, and with the Clerk to the Parish Council in regard to new buildings for Chryston Epileptic Colony; (3) the appointment of Messrs. George Bell & Alexander Wingate as representatives on the Architectural Department of the Royal Technical College; (4) correspondence in connection with the drawing-up of a form of contract applicable to Scotland generally, with adjustment of the relations between the various trades concerned, with the Faculty of Surveyors, the Building Trades Employers' Council, the Building Trades Exchange, Ltd., and the Scottish Building Trades Federation. Attention was also drawn to the coming lectures by Sir John Stirling Maxwell and Professor Riley, of Liverpool, and to the dinner of the Institute to be held in February next.

The Architectural Association of Ireland: Modern French Architecture.

At a meeting of the Architectural Association of Ireland, held at the Rooms in Frederick-lane, Dublin, on December 11, Professor W. A. Scott, A.R.I.B.A., in the chair, a lecture on "Modern French Architecture" was read by Mr. P. Cart de Lafontaine.

In the course of his lecture, which was illustrated with lantern slides, the lecturer dealt with the historical aspects of French architecture, and mentioned that the present School of the Beaux-Arts in Paris was the descendant of the Academy of Painting, Sculpture, and Architecture, founded by Colbert in 1648. The history of the succeeding period was briefly sketched, the lecturer pointing out the notable characteristics of modern French architecture as shown by the buildings of the last two centuries in Paris and the principal French cities. The variations of style were, he said, almost as considerable as was the case in this country and in England. The earlier period of the eighteenth century was succeeded by an age of architectural archæology, which, in turn, gave place to native art, in which was to be found a close approach to the principles of the earlier French architecture. The lecturer next dealt with the buildings of modern times, and showed illustrations of the various types. Addressing himself to the practical side of present-day architecture in France, he said the two great institutions which exercised a strong influence on the style and character of the buildings were the Société Centrale and the Société de la Architectes Diplômes.

A vote of thanks was passed to the lecturer, on the motion of Mr. Caulfeild Orpen, R.H.A., seconded by Mr. Harold Brittain. Addresses followed, in which Messrs. J. H. Webb, R. M. Butler, F.R.I.B.A., H. Hill, A.R.I.B.A., of Cork, H. G. Leask, and others took part.

The President announced that Mr. T. Hudman had rejoined the Association, and referred to the recent election of Mr. R. Caulfeild Orpen as President of the Royal Institute of the Architects of Ireland. The honour was of peculiar interest to the A.A.I., as Mr. Orpen was their first President seventeen years ago.

CORRESPONDENCE.

Registration of Architects.

SIR,—Perhaps the following occurrence may be an inducement to those members of our profession who are not supporters of the principle of Registration to change their opinions. We recently prepared a large number of schemes for the erection of electric theatres, which were ultimately abandoned for financial reasons, and were compelled to sue for our charges in the County Court. On the advice of our solicitor we submitted our account in fullest detail, charging 10s. for a visit to the County Hall and consultation with the officials there. In summing up the learned judge picked out this charge as monstrous, saying, "Of course, a solicitor can make a charge, but I never heard of an architect making such an exorbitant charge." As we are over half an hour's journey from the County Hall and time was occupied there necessarily, it would be interesting to know his honour's opinion as to the value of an architect's time and why it should be worth less than a solicitor's. ARCHITECTS.

London, E.C.

The Architects' and Surveyors' Approved Society.

SIR,—I think your readers will be interested to have a short account of the first year's work of this Society.

It completed its first year on July 13 last, and at that date there were 1,605 subscribing members associated with it. These numbers have steadily increased, and at the date of writing this letter the membership stands at about 1,900. The membership is confined solely to those employed in the architectural and surveying professions. In addition to the subscribing members there are sixty honorary members.

When the Society was formed I ventured to predict that it would prove advantageous to those concerned, for two principal reasons, viz.:—

(i.) That the average health of the members, as a class, would be good.

(ii.) That the proportion of persons passing out of the category of insured persons would be higher than in non-technical professions and businesses; and that, as a consequence, the funds available for benefits, in addition to those provided by the Act, would be larger than in societies with a miscellaneous membership.

These anticipations have been amply fulfilled. During the year under review benefits have been payable only for six months. In that period the actual sickness and maternity experience of the Society as compared with the estimates of the Government actuaries is as follows:—

	£	s.	d.
Actuarial estimate	525	16	1
Actual payments	153	9	8
Leaving a saving in practice as compared with estimates of	372	6	5

Thanks to the generosity of the Royal Institute of British Architects, the Surveyors' Institution, the Architectural Association, the Society of Architects, and the Quantity Surveyors' Association the cost of launching the Society has not fallen upon its membership funds, as these five institutions subscribed £220 between them for this purpose.

The cost of the ordinary administration is about 2s. 7½d. per head, as compared with the sum of 3s. 5d. per head allowed under the Act. The satisfactory figure at which it has been kept is due to the united efforts of the Secretary and the Committee. In this connection it should be mentioned that no member of the Committee has accepted any fee or expenses in connection with his attendance thereat.

If the saving on the sickness benefit (as compared with the Government estimate) and the saving on the administration are added together a surplus of £509 17s. 11d. is arrived at on the year's working. In this connection it should be borne in mind that (as before stated) the sickness benefit has only been payable for six months, and therefore there should be a greater saving during this year if the general health of the members remains the same.

The number of persons who have ceased to be members of the Society, owing to their passing out of the category of insured persons, consequent upon the rise in their incomes, is 102.

In view of the very satisfactory nature of these figures I have every confidence in urging all persons who are engaged in architects' and surveyors' offices and are eligible for membership to join the Society.

GEORGE CORDEROY.
Chairman of Committee of Management.

"Some Aspects of Tendering."

SIR,—Referring to the articles on this subject recently published in your journal, it will doubtless be admitted by all who know anything of building work that reform in tendering is extremely desirable.

My remarks are intended to be supplemental to rather than criticisms of your articles.

It should always be remembered that "tenders" are not for the builders' information, but the building owners'. They should, therefore, never be invited from more than one builder unless the quantities are supplied at the building owner's expense and made the basis of the contract.

The defects pointed out by the writer of the articles are undoubtedly true and well known to many, but the suggested remedies may not be so convincing or practicable. The standardisation of prices and the committee or committees of experts may prove quite unworkable and extremely undesirable.

Builders and their merchants are the principal sufferers under the present defective system, but they cannot bring about reform of themselves, or they would have done it long ago. Public bodies could lead the way if rightly influenced in the proper direction, and private building owners would soon follow if the results were satisfactory.

The root of the evil is not to be found solely in competition, but in the fact that competition is always for the lowest place.

Let public bodies and others intimate when asking for tenders that they will favour the one nearest to the middle of a series rather than the lowest, and better results would quickly appear, experienced estimators would have nothing to fear from the inexperienced, and there would be no longer the temptation to "knock off" 5 or 10 per cent. from an estimate already perhaps too low in order to obtain the work, but all would be trying to arrive at the correct results rather than the lowest. The wide difference between highest and lowest tenders would not be so frequent as now, and better results and better work might be expected everywhere.

Builders would cease to have the terrible feeling of working "against the grain" all through a job which they sometimes have now after discovering when too late that their tender is far below their competitors, and architects and building owners would not be troubled with the feeling that they may be helping some unfortunate individual along the road to bankruptcy.

Let me illustrate my point with a familiar simile.

Supposing the King's Prize at Bisley was offered for hitting the target at the bottom, instead of the middle, many bullets would fall short of it altogether, but by aiming at the middle, if they do not actually get a bull's-eye every time, the best shots are seldom far away from it.

So it is with tendering; the experienced estimators are generally not far from the real value of the work, and that is what building owners, public or private, should endeavour to obtain and give.

If public bodies could be induced to adopt this principle they would soon discover it to be the right one, and private owners would soon copy their example; there would then be no need for standard prices nor committees of experts, and estimators would be free to exercise their skill and knowledge to the fullest extent.

EQUITABLE VALUE.

The Value of Thatched Roofs.

SIR,—Farmers, landowners, and all who love the country must feel an interest in this subject; and a copy of a little pamphlet recently issued will gladly be sent by me to anyone on receipt of a postcard.

The value of thatch as a roofing for all kinds of stock is emphasised by men of the highest authority, as well as its general utility, and economy in the long run, for houses, barns, and all rural buildings; while its beauty and fitness in rural surroundings cannot be surpassed.

I am inclined to think that the complaint of the scarcity of men to do the work is exaggerated, for in many districts there are plenty of good thatchers; a recent Devon directory gives 123 in that county alone, and I know that they are not all old men. And, needless to say, when the demand increases lads will learn thatching who would otherwise go into other callings.

It does not seem to be generally known that Lloyd's will insure thatched buildings of stone, brick, or cob at only half-a-crown per cent. This minimises an often-urged complaint; while another objection to thatch—that of harbouring fleas, etc.—can I believe be guarded against by dressings of corrosive sublimate.

I will send particulars of fireproofing preparations or insurance at the rate mentioned above to anyone interested in the subject, and shall be glad to receive any suggestions for maintaining the use of the beautiful, serviceable, and typically English roof-covering.

The pamphlet referred to contains the signatures of prominent agriculturists, medical men, architects, and artists; and architects of the highest standing are using thatch in many parts of the country, well knowing its intrinsic value, and rejoicing in its harmony with our matchless English countryside.

L. MARK KENNAWAY.

"St. Helens," T. gmiow'h.

Leading Contents.

	PAGE.
INDIVIDUALISM IN RELATION TO TOWNS	661
"CHARTERED ARCHITECTS?"	663
SOME RECENT BUILDINGS IN CALIFORNIA	664
THE ROYAL INSTITUTE OF BRITISH ARCHITECTS	665
LEGAL SECTION:—	
THE LIABILITY OF BUILDING OWNERS AND CONTRACTORS FOR DAMAGE TO PERSONS AND PROPERTY	675
SANITARY NOTICES	678
THE MEASUREMENT OF STRESSES IN MATERIALS AND STRUCTURES	679
THE BUILDING TRADE:—	
SOME THOUGHTS ON COST KEEPING.—IV.	680
A NEW PAINT FOR STEELWORK AND FLOORS	680
THE NEO-CLASSIC PHASE OF ENGLISH ARCHITECTURE	684
THE NEW ENGLISH ART CLUB	685
STUDENTS' WORK IN MANCHESTER	685
COURAGE IN COLOUR	685
THE LONDON COUNTY COUNCIL	687

ILLUSTRATIONS.

Sketches from New York.

THESE two sketches are from an interesting collection of very able and effective drawings by Mr. Henry P. Kirby, of New York. The sketch of the east end of the Cathedral of St. John the Divine gives an excellent idea of the building from this point of view.

Design for Cheshunt College.

THE plan was difficult to work out, because of an old sewer running across the middle of the site, and because arrangements had to be made for including about twenty sets of rooms in the first scheme and two later extensions of ten each. The design shows a brick building with stone dressings, grouped rather compactly in order to leave ample space for two tennis-courts at the south-west corner; another tennis-court near the tutor's house and plenty of garden for the President. A feature was made of the large lecture hall on the first floor, with an entrance tower adjoining on the south side, and the library and chapel on the north. The tradesmen's entrance to both the College kitchen and the tutor's house was kept well away from the men's rooms. Only three sets of rooms faced exclusively north. All the others were planned to get sunshine during the whole or part of the day.

HASTWELL GRAYSON.

Emmanuel College, Cambridge: New Quadrangle.

THE Governing Body of Emmanuel College, Cambridge, has recently been adding some sixty sets of rooms for undergraduates and two sets of rooms for Fellows. These are contained in an L-shaped block of buildings with seven staircases, and this L forms two sides of a quad, and the third side by the cloister shown in our illustration to-day, together with a porter's lodge, and this cloister, in its turn, is connected by a subway to the main College on the other side of Emmanuel-street.

The fourth side of the quad is open to Emmanuel-street, so as to let as much light and air in as possible.

Generally speaking, the lower portion of the building is faced with Weldon stone, with sawn face; above this thin courses of Bath stone rubble are used with Weldon stone dressings to the windows, etc.

The roofs are covered with a specially-made local tile of a yellowish tinge, and the windows

The Small Cottage.

Mr. R. Weir Schultz, Architect.

are fitted with steel casements and leaded glazing.

Mr. Wm. Saint, of St. Barnabas-road, Cambridge, is the builder, and Mr. Leonard Stokes, of 2, Great Smith-street, Westminster, the architect.

Oswaldtwistle Carnegie Library: Selected Design.

As the site occupies a prominent position in the town, and the view from the main street will look directly on to the angle of the building, this appears to be the obvious position for the entrance, which has been treated as the dominant feature of the elevations. As the staff will consist of one person only, whose usual position will be at the lending library counter, it was essential that the plan should be arranged so that every part of the building could be supervised from that point. The building will be faced with local stone, the base and the wall around the garden being of grey granite. The roofs will be covered with thick grey Burlington slates, and the flat roofs will be of reinforced concrete covered with asphalt. Internally, all walls will have tiled dadoes and be plastered above, while the joiner's work will be stained green and varnished. The floors will be of concrete covered with wood blocks. The architect is Mr. F. Quentery Farmer, of Stalybridge and Coventry.

The Cheap Cottage.

THE plans and elevations reproduced in the Plate show a replica of the Letchworth Cottage (illustrated December 5), for which an order was given before the Cheap Cottage Exhibition was opened, and the building was finished in time to enable photographs of it to be exhibited on the walls of the Letchworth Cottage in the autumn of 1905.

It differs in plan from the latter in having a detached earth-closet, which made it possible to provide an entrance lobby as shown, the larder being arranged off the scullery. This plan, therefore, solved the same requirements to which Mr. Arnold Mitchell applies his "Standard Cottage B," but with the addition of the entrance lobby off which the stair starts. Both the possibility of having an inner door and its position in the living-room improve the comfort of the room. The wall space for hanging hats and coats in the lobby is an advantage which should not be overlooked even in a workman's house. The construction of the cottage was otherwise the same, except that the timber-framing was covered with steel lathing rendered with two coats of cement and limewhited, and a flat roll-edged tile was used on the roof in place of pantiles. The dimensions of the building are also the same as the Letchworth prize cottage, but 9 in. shorter, and the sizes of the rooms corresponded with the floor area and cubic capacity asked for by the Exhibition authorities. The contract price, for which it was completed, including drains and cesspool, was £148. This cottage is at Downton, near Lymington, Hants.

The sheet of details reproduced on the same Plate are those belonging to the replica erected a year or so later at Lingfield, in Surrey. This is a somewhat larger cottage built to house a coachman, and cost £199. The walls were 9 in. thick, rendered with cement outside and the hollow plinth, as shown, was used to enable (by means of a damp-course at two levels) the joisted floor to be kept down to near the ground level. This saves two or three courses of brickwork, and is a device that may well be adopted in buildings other than so-called "cheap cottages." The longitudinally trussed purlins are also very useful in domestic work, and, if carefully arranged, will often save having recourse to costly trussed rafters or principals in quite large buildings. Another development of the same constructive device is to truss and frame up the ridge of the roof itself. The rafters may then be hung or spiked on to the ridge in such a way that it is impossible for them to have any thrust on the walls on which they rest below. There are limitless possibilities in constructive details even in simple domestic work for the trained architect who thinks in stresses as he designs and plans. The brick-built fireplace figuring among these details was referred to in my letter of December 5. Perhaps it is worth adding that the grate-front shown on the drawings may be reduced to two iron bars bent so as to enable them to be built in with the firebricks, one about 1½ in. above the brick hearth and the other 2 in. above that. The arch-bar should not be more than about 2 ft. 3 in. above floor level. F. W. TROUP.

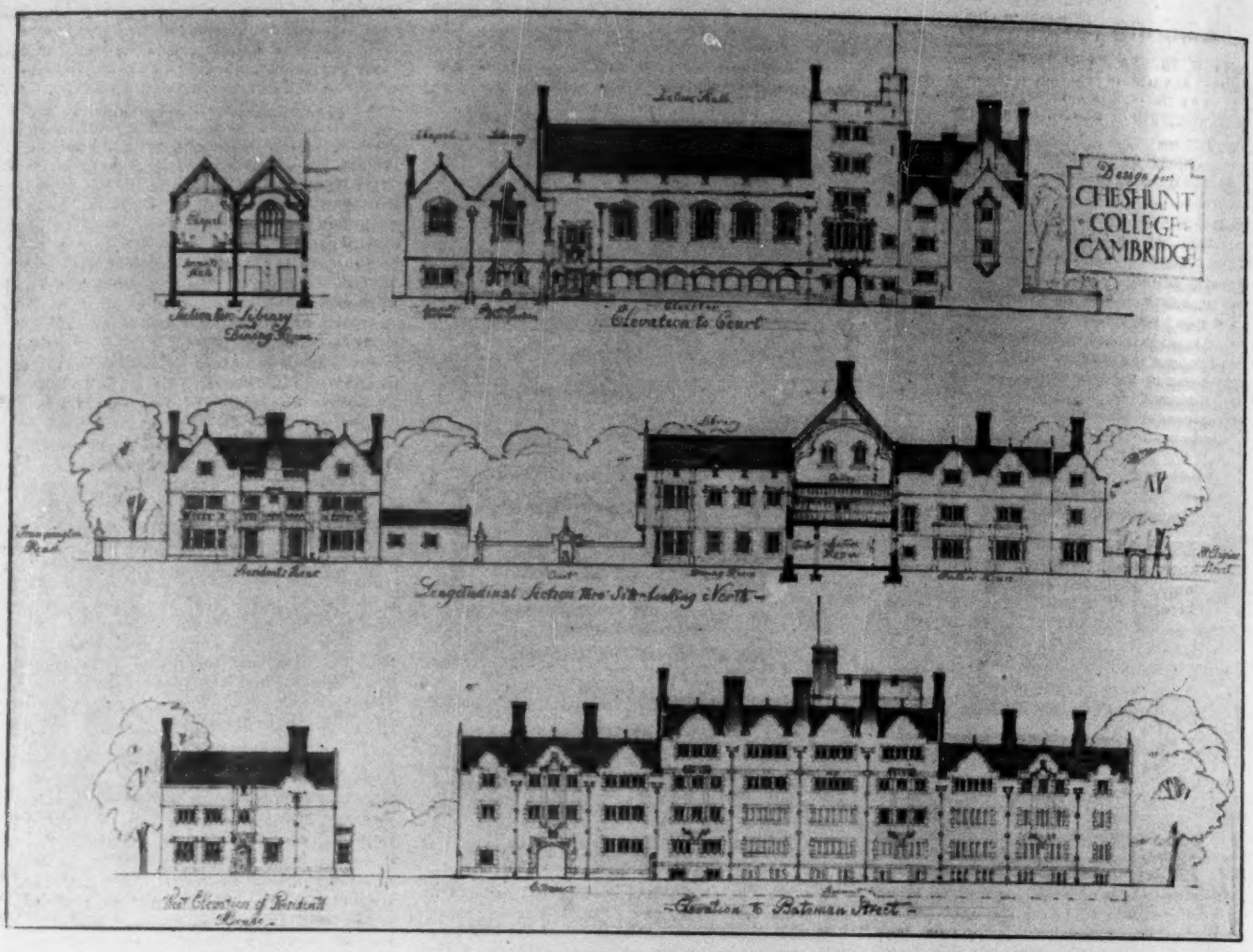
We also reproduce on p. 674 the working drawings of some cottages erected by Mr. R. Weir Schultz in 1907 on small holdings in Suffolk. These cottages are admittedly a reproduction of Mr. Troup's Letchworth type of 1905, with some slight variations in arrangement and sizes of rooms. Mr. Schultz had been building cottages on this plan of two rooms and scullery downstairs and two bedrooms over for many years previously as gardeners' cottages to country houses, but these cottages were a little more elaborate in external design and less *cut* as to cost (we hope to illustrate one of these, built in Hertfordshire in 1898, in a future number). He was so impressed with Mr. Troup's economies as shown in his Letchworth cottage that he followed it in essentials in these cottages for small holdings. Even here the cottages were not required nor designed to be starved of essentials that make for the comfort and convenience of the occupants. Hence ample space was allowed, and a reasonable finish was permitted. The ground floors are raised well above the surrounding ground on good concrete and brick foundations, which go 15 in. below the surface. The studding is covered on outside under the weather-boarding, with a well-lapped waterproof lining made by the Ruberoid Company. The weather-boards are not only lapped, but rebated as well, so as to give a tighter joint. The ground-floor ceilings are all plastered under the joists, and the upright studding is all lathed and plastered inside. In order to avoid breaking the plaster, a sawn fillet is placed round the two rooms under ceiling level to take nails for hanging pictures. The living-room fireplace is finished round with faced brickwork, and has a 9-in. by 9-in. tile hearth. The back kitchen

Small Holding Cottage at Sproughton, Suffolk.

Mr. R. Weir Schultz, Architect.

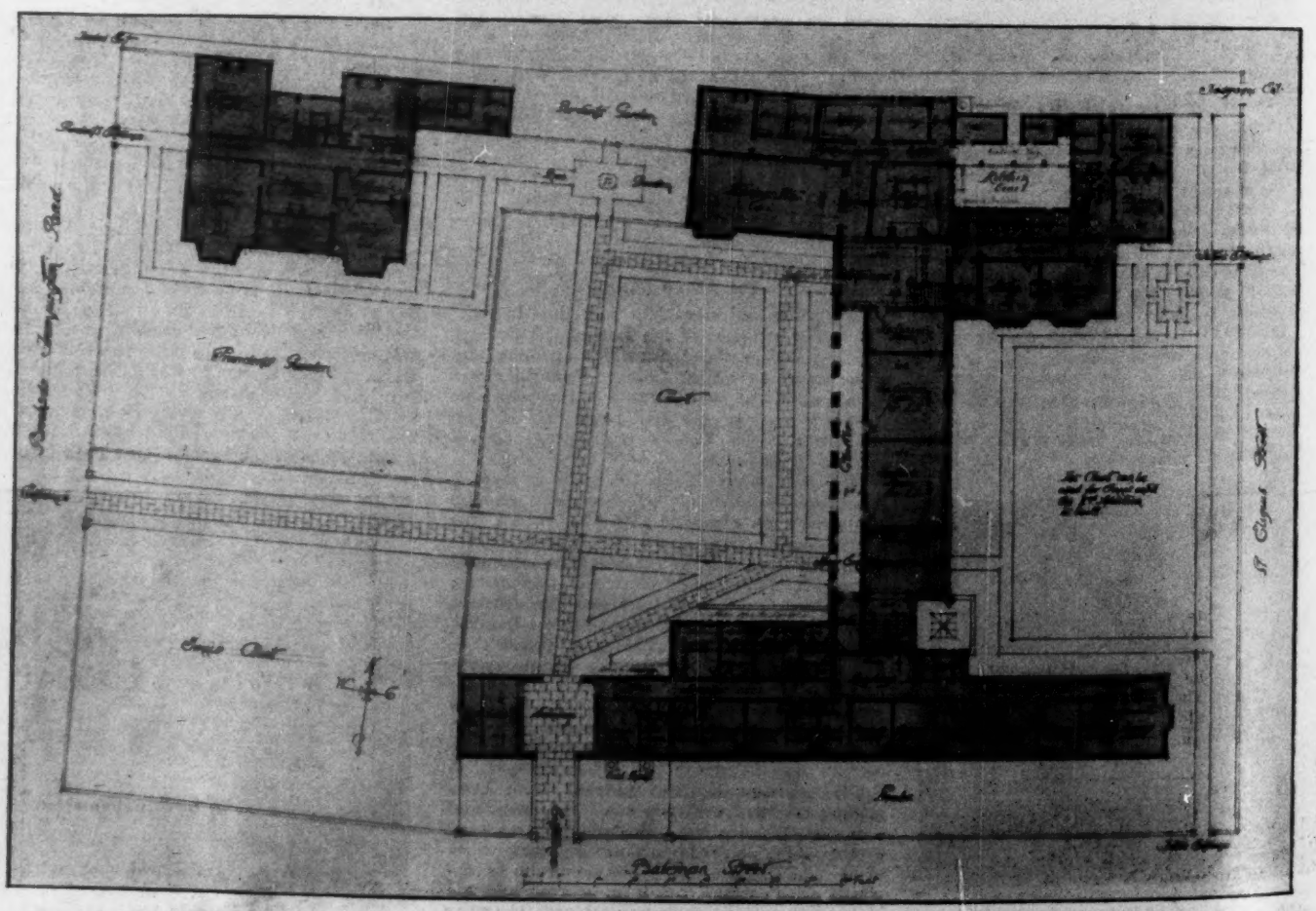
Small Holding Cottage near Hadleigh, Suffolk.

Mr. R. Weir Schultz, Architect.



Cheshunt College, Cambridge.

Design by Mr. Hastwell Grayson, F.R.I.B.A.



Cheshunt College, Cambridge.

Design by Mr. Hastwell Grayson, F.R.I.B.A.

is floored with 9-in. by 9-in. tiles. The eaves are kept well up above the heads of the ground-floor windows, so as not to cast a shadow and darken the rooms. The living-room is adequately lighted by windows on *two* sides, so that there is ample light for cooking by at the range and for general domestic purposes which a room lighted only at one end cannot have. The upper bedrooms have both got fireplaces, and these rooms are amply lighted by three-light windows, the two side lights hinged at sides and the centre light at top for ventilation. The studding at sides of bedrooms measures 4 ft. 9 in. to start of slope of roof, which allows good room for a chest of drawers or for other furniture and for the bedheads. The small fireplaces are formed in the building of the walls of a width of 9 in., with firebricks on edge and solid fire-brick sills and a simple iron-grid, costing a few pence, is fixed in by stout pins inserted at the joints of the brickwork. The ends of bricks project flush with face of plaster, so that no wood moulding is required round fireplaces. The roof is covered with rebated boarding, tile fillets, and pantiles. The living-room has a close and open self-setting range, with oven and boiler with tap, and a small Suffolk range is provided in the back kitchen for use in the summer, and also a portable copper.

A sink is also fitted up discharging over a gulley outside with paved space round it for emptying slops on to, and a drain is taken to a built cesspool, from which the waste water is pumped when required for use on the land. A fresh-water storage tank is provided, with suction-pipe and pump, over sink in scullery. This tank was required on account of the water not rising by gravitation to the roof. In some cases where the water did so rise the under-ground tank was dispensed with and a cistern placed in roof.

The rain-water is collected at one end into a galvanised iron-covered tank with overflow.

These cottages were not put out to tender, but were built by a local builder employed by the proprietor, who was developing the estates, and the inclusive costs, with all the various extras mentioned and others, was £190.

The aim was not to get a *cheap* cottage, but a comfortable one at a fair price, which would have a rental not exceeding £10 a year.

Shorn of all the extra work and material which go to the making of a comfortable and liveable cottage as distinct from a *cheap* one, the prices of these cottages could be reduced to a sum which would compare favourably with the prices quoted in our last number; and, if put out to competitive tender and built in numbers at a time, the price could be still further reduced.

It seems ridiculous to say absolutely that cottages can be built within about the same sum everywhere, as a great deal depends on the cost of material, carriage, and labour, and the organisation of the work, which things may vary the price as much as 20 per cent. in different localities.

These weather-boarded cottages are preferred by the smallholders to other brick cottages which were erected on adjoining holdings at greater cost.

In order to show that this type has been in general use previous to the publication of Mr. Mitchell's plan, we illustrate another variant of the same plan built by Mr. Schultz at Ascot last year, and it would be possible to show other plans on these lines of cottages built by other architects in different parts of the country. This being so, there seems no real basis for the claim put forward by Mr. Mitchell to call this type of cottage his "Standard" cottage or to require a licence from everyone who builds it.

The plans now illustrated are not claimed as copyright, and the authors raise no objections to these being utilised without fee or licence.

We also illustrate plan of a cottage Mr. W. Curtis Green made and submitted in a competition for labourers' cottages for the Irish Land Commission in 1907, the cost not to exceed £130. The cottage was built in 1908 in Cornwall unfortunately. The design was made after seeing Mr. Troup's cottage at Letchworth.

THE ROYAL SANITARY INSTITUTE.

At an Examination in Sanitary Science as applied to Buildings and Public Works the following three candidates were granted certificates:—Messrs. L. Barnard (Leatherhead), L. M. Chignall (East Dulwich), C. Dear (Paddington). At an Examination for Inspectors of Nuisances thirty-seven candidates were certified.

MEETINGS.

MONDAY, DECEMBER 22.

University of London (Victoria and Albert Museum).—Mr. Banister Fletcher on "The Later Palaces and Churches of France." 5 p.m.

TUESDAY, DECEMBER 23.

The Institution of Civil Engineers.—Discussion on paper, "Cyclical Changes of Temperature in a Gas-Engine Cylinder," by Professor E. G. Coker and Mr. W. A. Scoble. 8 p.m.

COMPETITION NEWS.

It must be understood that the following paragraphs are printed as news, and not as advertisements; and that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

The list of current Competitions is printed on page 688.

Extension of Rutherford College.

At a recent meeting of the Rutherford College Committee it was decided that, acting on the adjudicators' report, the work for extension of the College would be placed in the hands of Mr. W. H. Knowles, F.S.A., of Newcastle, whose plans were selected by the Committee, being professionally assisted in the assessing of the competition by Mr. T. Edwin Cooper, F.R.I.B.A.

Lord Wandsworth's Orphanage.

Lord Wandsworth, who died in the early part of 1912, left over a million sterling to found an orphanage to bear his name. The trustees have had much difficulty in finding a site suitable for the building, but have now concluded negotiations for the acquisition of the Long Sutton Estate, Winchfield, near Basingstoke, Hants, and have obtained the approval of the Charity Commissioners. There are about 1,000 acres of land, and it is probable that a competition will be instituted, under the control of an assessor, to obtain designs. The trustees favour several buildings rather than one large one; and special provision will be necessary for teaching the children trades by which they can afterwards support themselves.

Proposed New Masonic Hall, Nottingham.

The Committee of the Provincial Grand Lodge of Nottinghamshire have received nine sets of drawings in response to their invitation for designs for the New Masonic Hall, Lodge rooms, and other buildings. The competition is limited to practising architects who are subscribing members to any Lodge in the province. Mr. Robert Evans, F.R.I.B.A., of Nottingham, is the assessor.

Morley-road U.M. Church and Schools, Doncaster.

In the competition recently held for this building the designs submitted by Messrs. George Baines & Son, 5, Clement's Inn, Strand, London, were placed first. The portion of the scheme to be erected at present is estimated to cost about £4,500.

Coventry Technical Institute.

Members and Licentiates of the Royal Institute of British Architects must not take part in this competition, because the conditions are not in accordance with the published Regulations of the Royal Institute for architectural competitions.

GENERAL NEWS.

The Christmas Holidays.

Next week the *Builder* will be published on Wednesday, the 24th inst., and to ensure attention all communications should reach the Editor not later than first post on Tuesday morning.

Appointment.

Mr. H. A. Purchase has been appointed Building Surveyor to the Birmingham Corporation. Since 1903 Mr. Purchase has held the position of Deputy-Surveyor to the Corporation.

Registration.

We have been asked to publish the following intimation to the Associates of the Royal Institute of British Architects as to the Registration proposals of the Council of the R.I.B.A.:—"We have arranged for an informal meeting of Associates to take place at the Royal Institute for exchange of views relative to the Council's proposals now before the members of the Royal Institute. The meeting will be held in the Great Gallery of the R.I.B.A. on Tuesday, December 30, at 7.30 p.m., and all Associates interested in the question are cordially invited to be present.—ROBERT ATKINSON, G. L. ELKINGTON, K. GAMMELL, EDWIN GUNN, E. STANLEY HALL."

International Building Congress.

The fourth International Congress of Building and Public Works is to be held at Berne from August 23 to 27, 1914, under the patronage of the Swiss Federal Government. The following questions are to be brought forward:—(1) Collective work contracts. International eventual regulations for the convention reports between associations or syndicates of employers and working men's organisations. (2) Technical instruction. (3) Strikes and lock-outs. Search for practical means or doing away with these conflicts. (4) Scaffoldings and hoardings. Study of their construction from a technical point of view, and with regard to the safety of workmen thereon.

The King Charles Statue.

The Secretary of the Royal United Service Institution has forwarded to the Westminster City Council a copy of a resolution recommending that in the event of its being found necessary to remove the statue of King Charles I., now at Charing Cross, a site should be found for it in the centre of Whitehall, immediately in front of the Banqueting House. The Law and Parliamentary Committee recommend that the Secretary of the Institution be informed that, as far as the Council are aware, no definite proposal has been made for the removal of the statue.

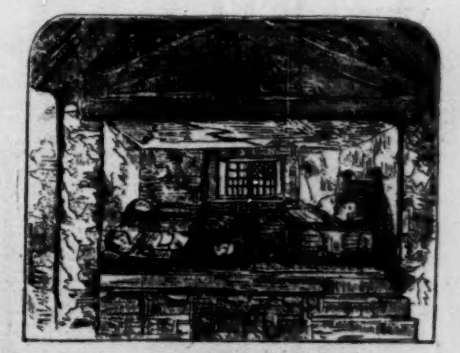
Australia and Art.

At the last dinner of the Authors' Club Mr. Bertram MacKennal, A.R.A., the Australian sculptor, was the guest of honour. Mr. MacKennal, speaking of sculpture from an Imperial standpoint, said Australia would always produce artists. The climate would breed them, for an untamed country where Nature was nude and not covered by the obliterating finger-prints of man had a message for the soul ready to receive it. What a chance Australia had with her proposed new capital! He had no idea what that would be, but there had never been a greater opportunity in modern times. The divorce of sculpture from architecture he thought was due to the great new industries which grew up everywhere during the Victorian era. An architect now designed niches and pedestals on his buildings, and knew they would never be filled. The Commonwealth of Australia intended to alter that so far as their building in the Strand was concerned, for they had voted the magnificent sum of £25,000 for the decoration of that building with mural paintings and sculpture by Australian artists.—*Times.*

FIFTY YEARS AGO.

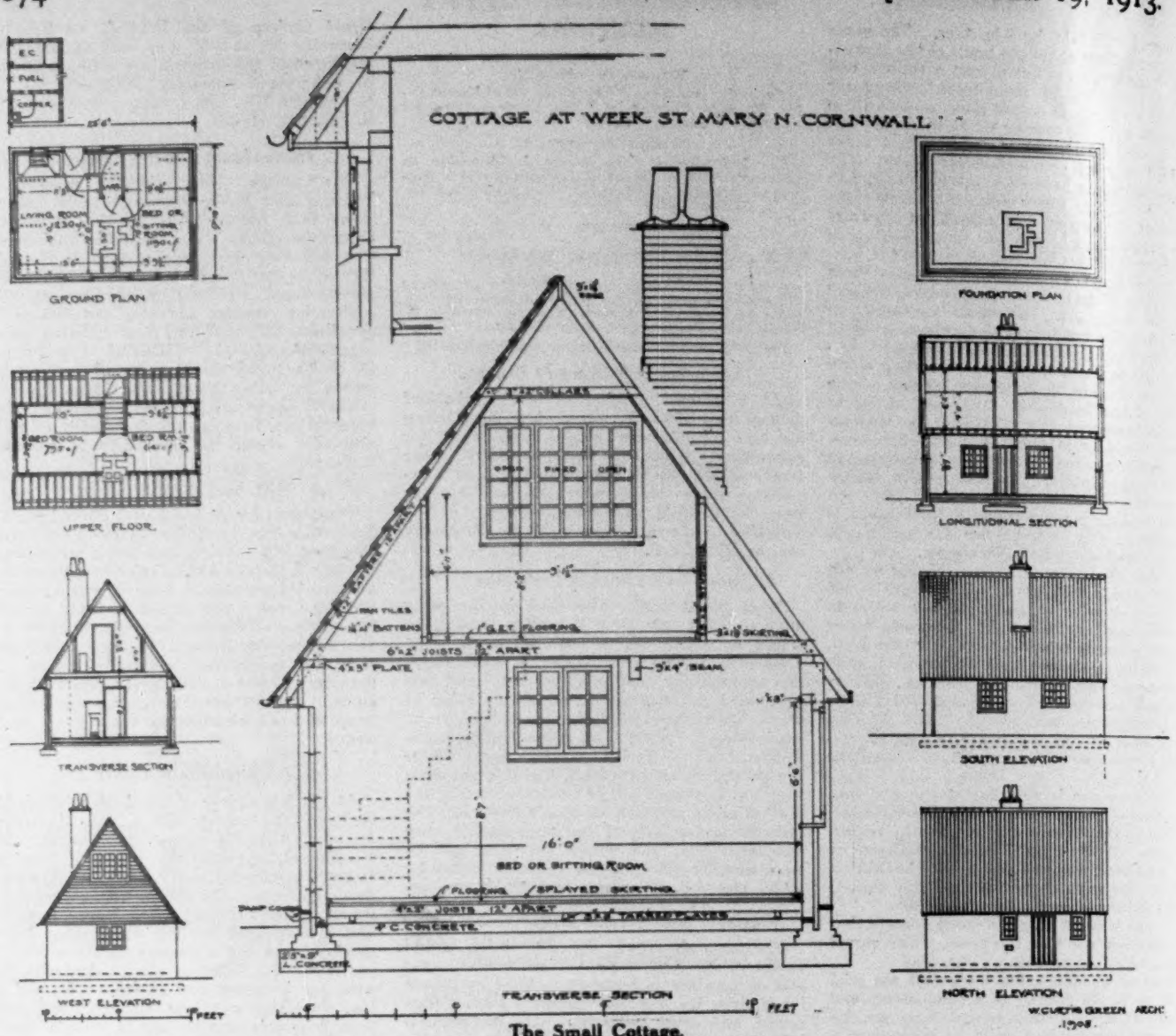
From the *Builder* of December 19, 1863.

REPRESENTING a cottage interior at Aylesbury:—



Cottage Home in Buckinghamshire.

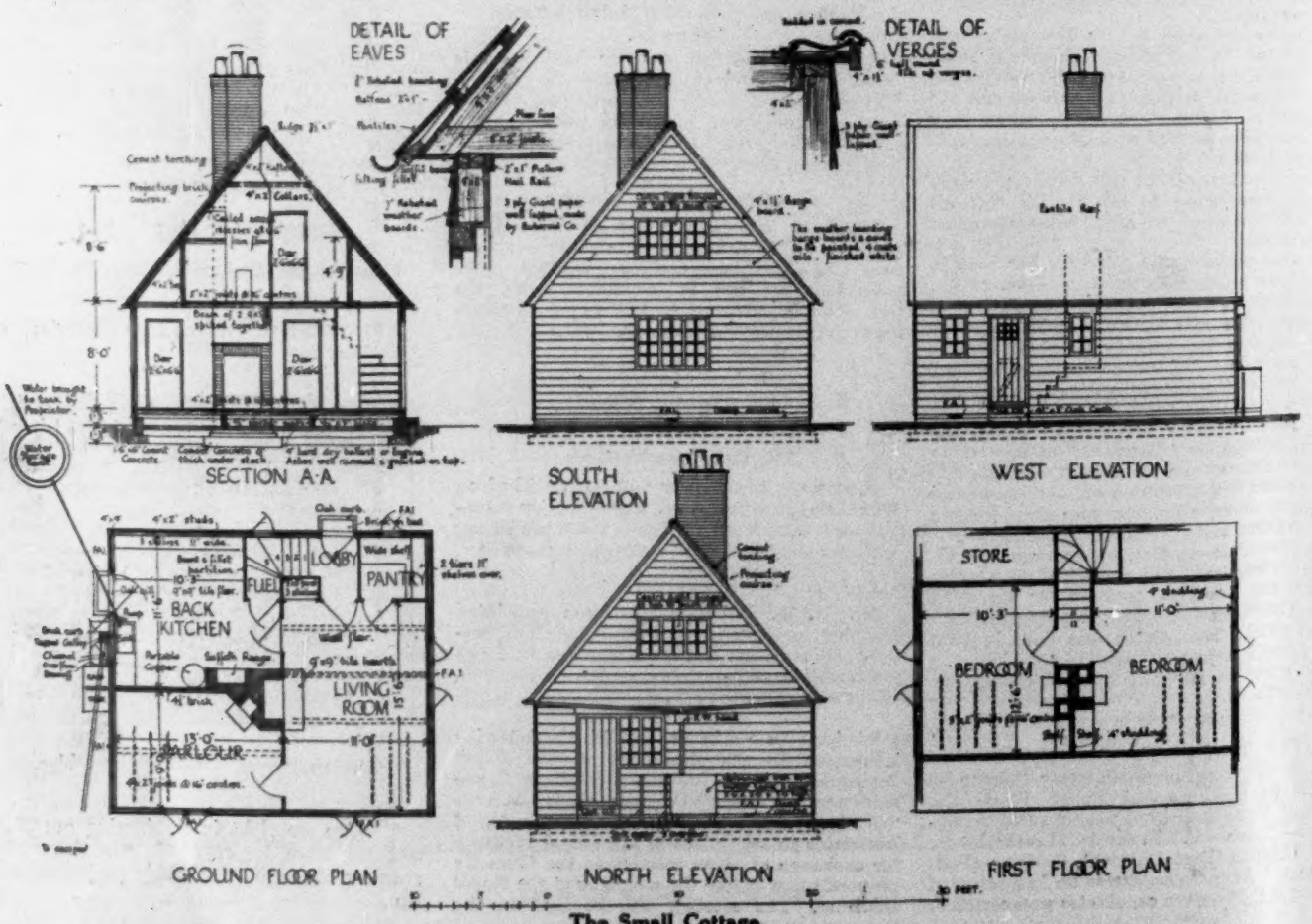
*** Are we right in considering our illustrations have improved in the last fifty years or are we unreasonably prejudiced?—ED.



The Small Cottage.

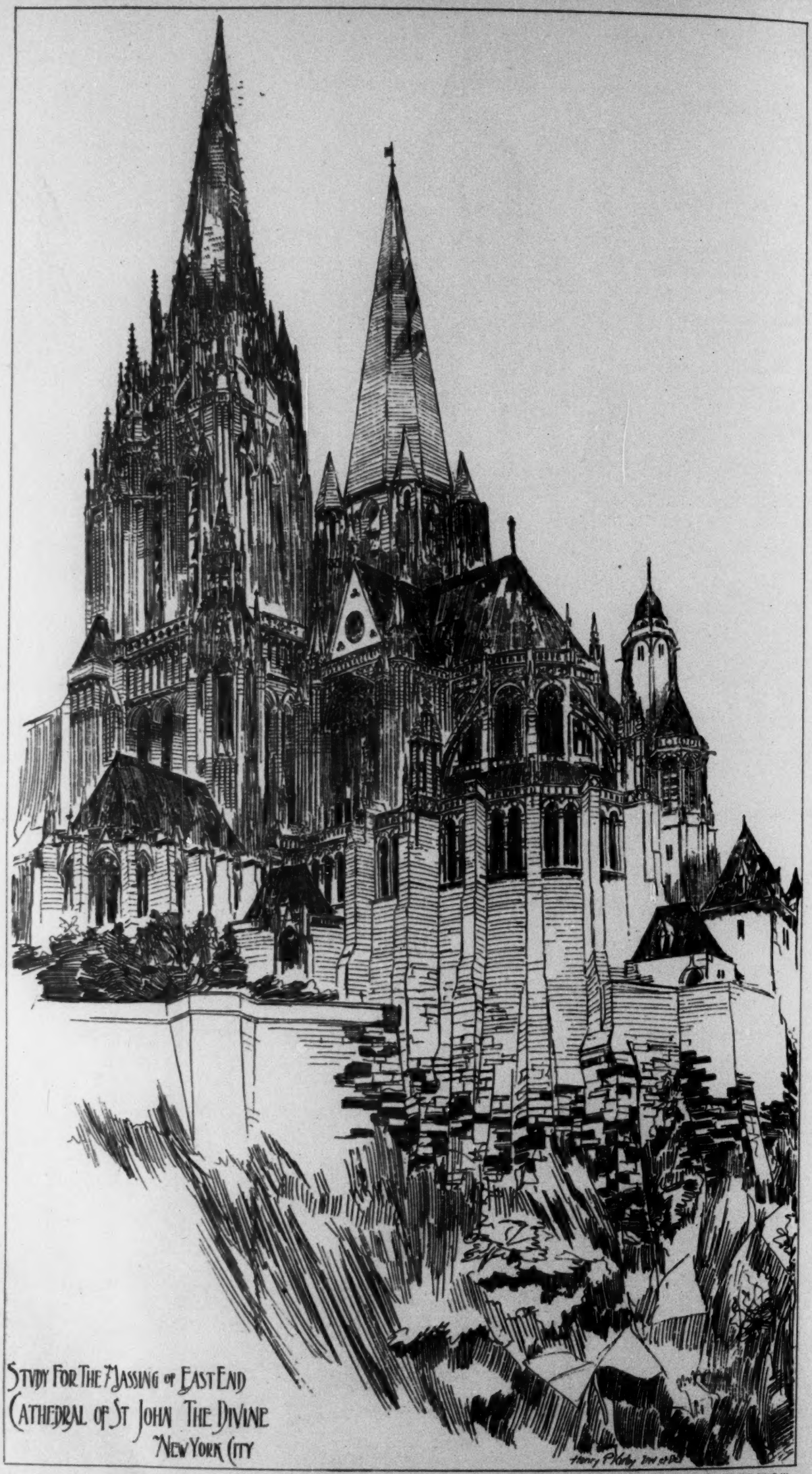
Mr. W. Curtis Green, F.R.I.B.A., Architect.

COTTAGES ON SMALL HOLDINGS IN SUFFOLK ERECTED IN 1907 BY R. WEIR SCHULTZ ON THE LETCHWORTH (Mr TROUP'S) MODEL.



The Small Cottage.

Mr. R. Weir Schultz, Architect.



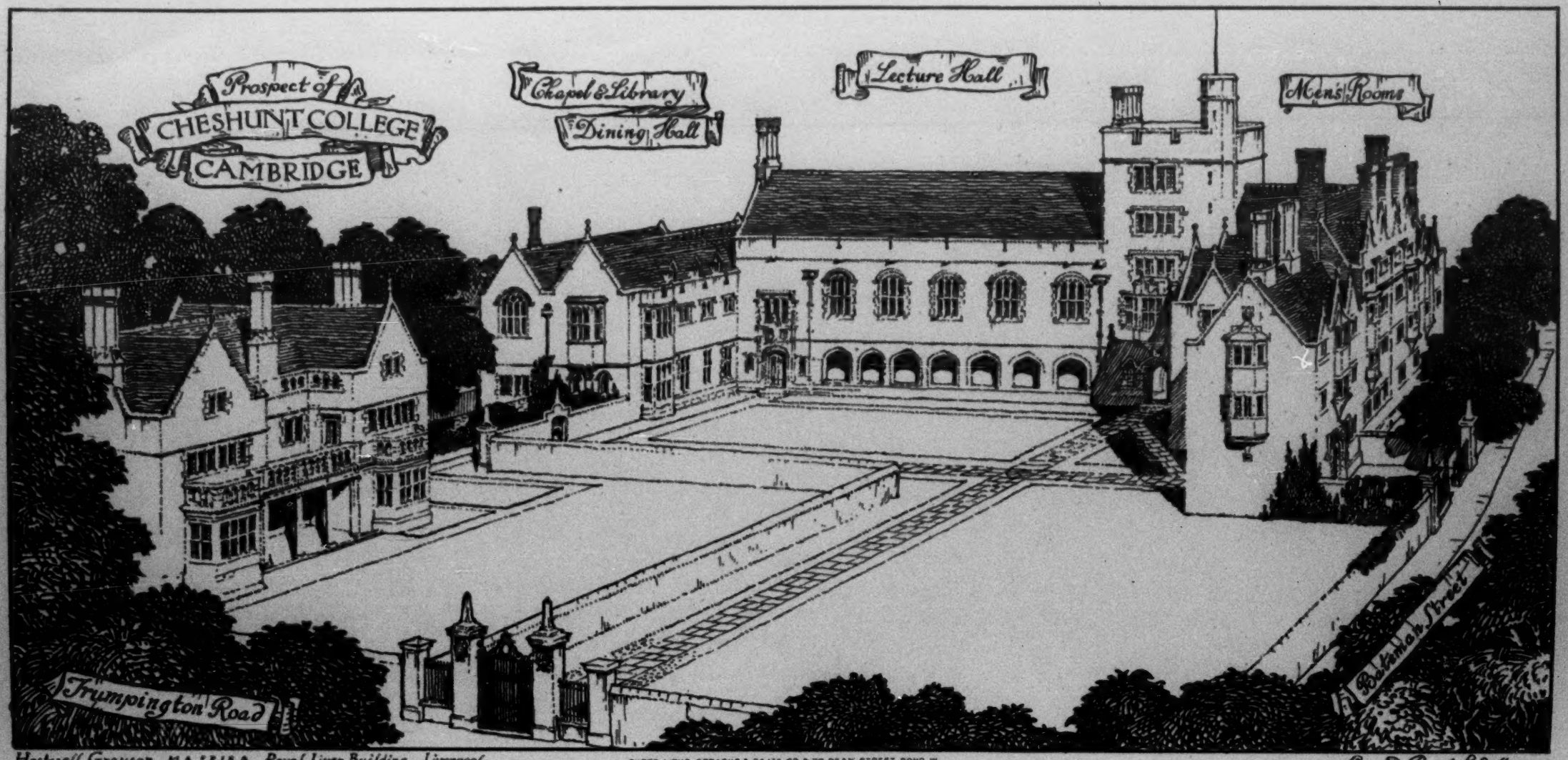
STUDY FOR THE MASSING OF EAST END
CATHEDRAL OF ST JOHN THE DIVINE
NEW YORK CITY

PHOTO-LITHO. SPRAGUE & Co Ltd 69 & 70, DEAN STREET, SOHO, W.

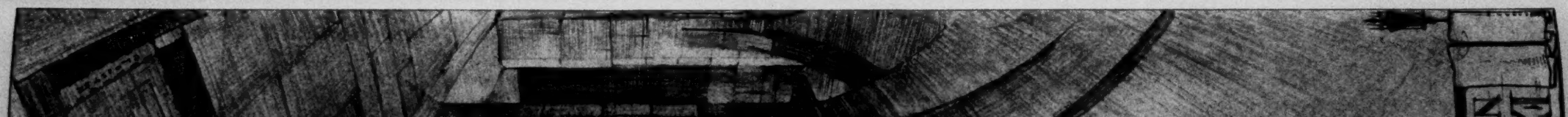
FROM SKETCH-BOOK OF MR. HENRY P. KIRBY, ARCHITECT, NEW YORK.

PHOTO-LITHO. SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W.

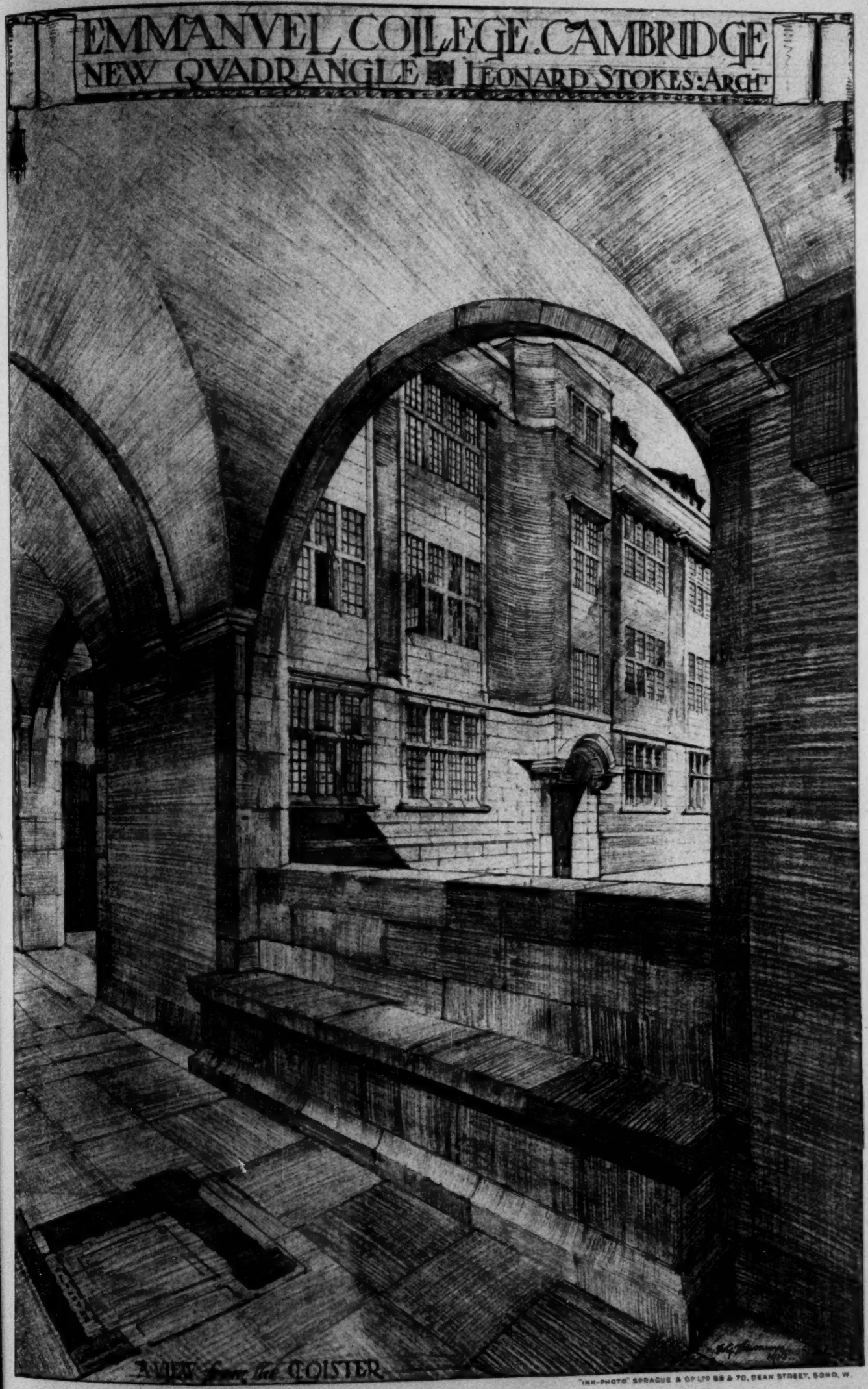
FROM SKETCH-BOOK OF MR. HENRY P. KIRBY, ARCHITECT, NEW YORK.



COMPETITION DESIGN, CHESHUNT COLLEGE, CAMBRIDGE.—By Mr. Hastwell Grayson, F.R.I.B.A.



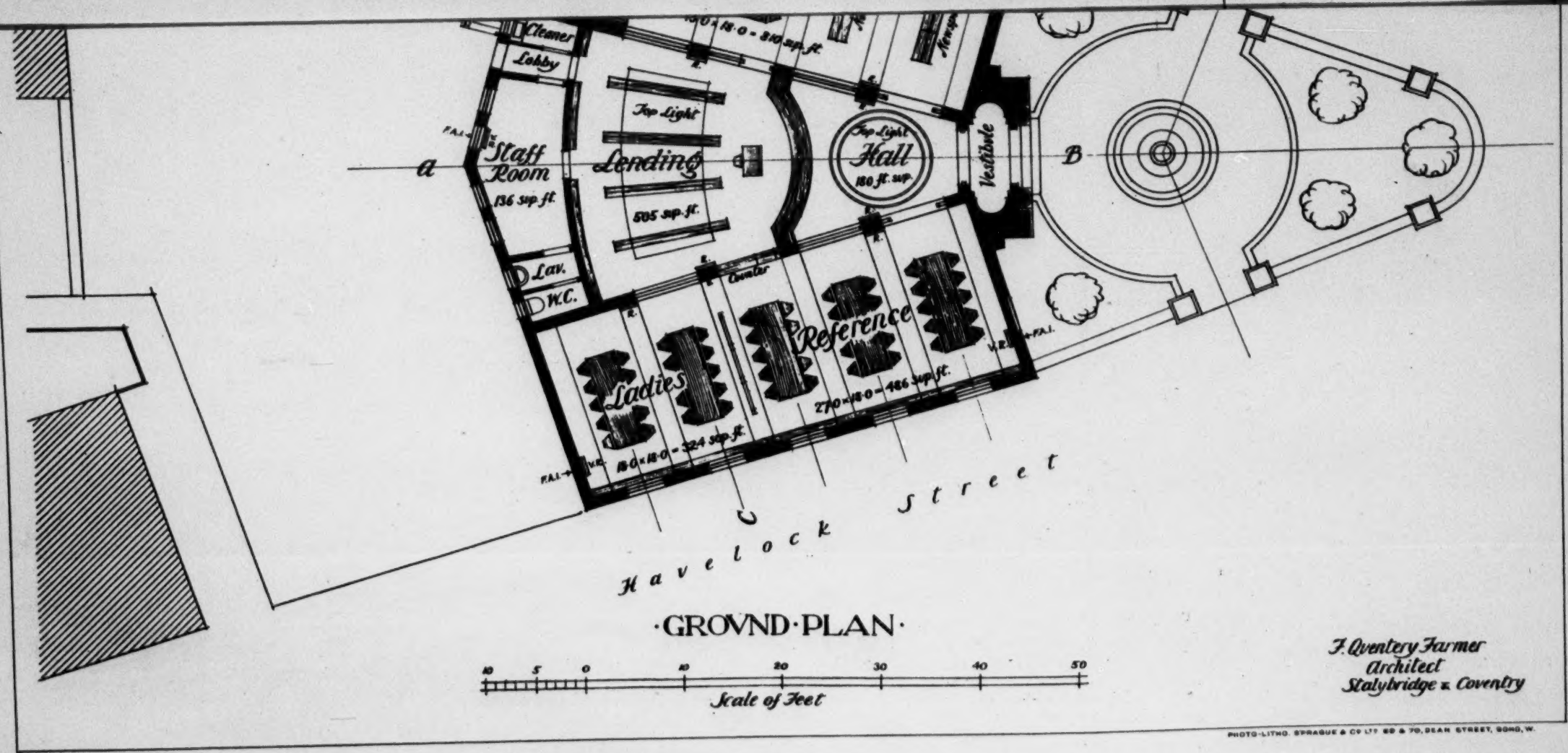
EMMANUEL COLLEGE, CAMBRIDGE
NEW QUADRANGLE — LEONARD STOKES: ARCHT



A VIEW from the CLOISTER

"INK-PHOTO" SPRAGUE & Co LTD 68 & 70, DEAN STREET, SOHO, W.

·OSWALDTWISTLE·
·CARNEGIE·LIBRARY·



·GROVND·PLAN·

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Scale of Feet

J. Oventery Farmer
Architect
Stalybridge & Coventry

PHOTO-LITHO. SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W.

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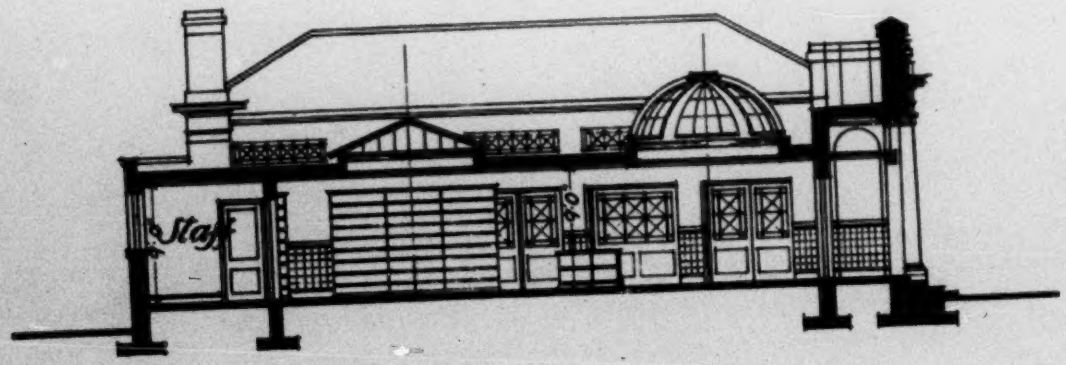

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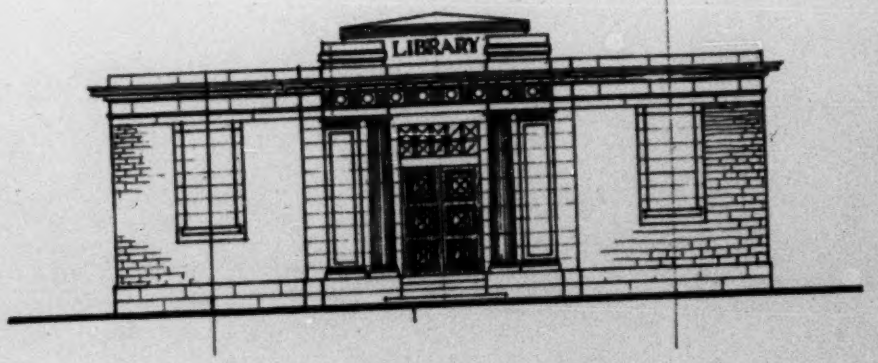
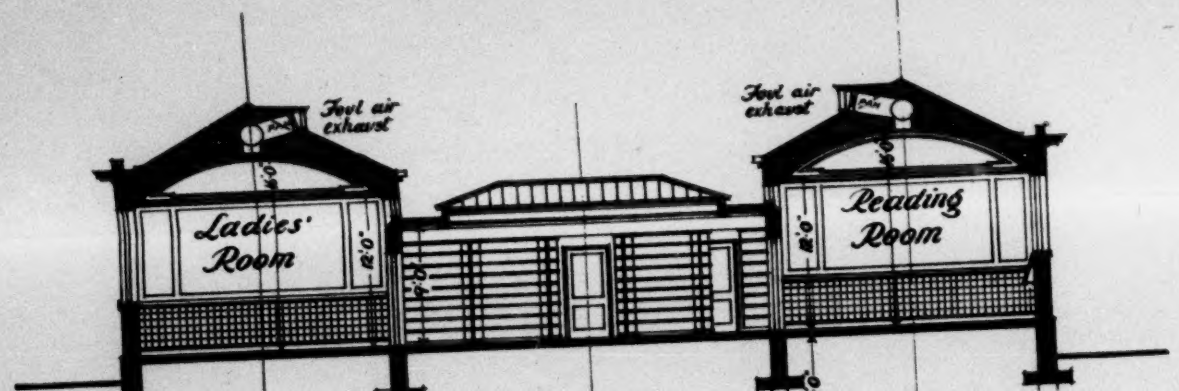
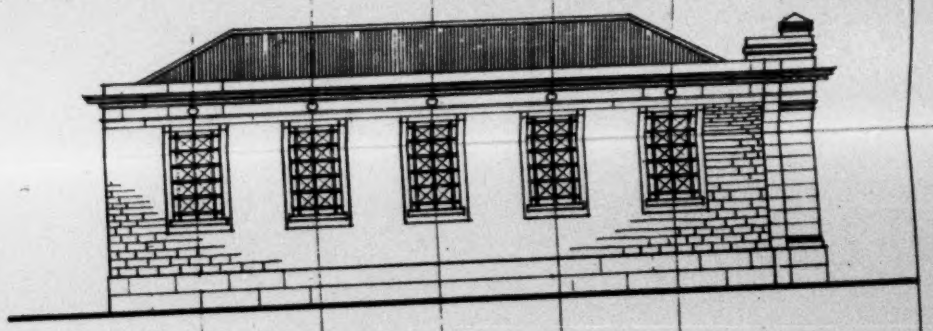


·EAST·ELEVATION·





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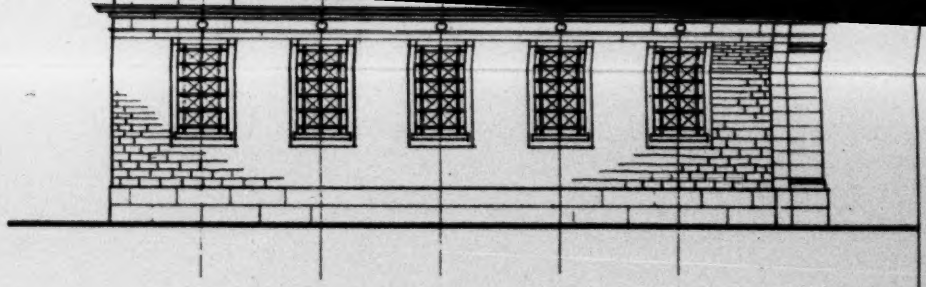

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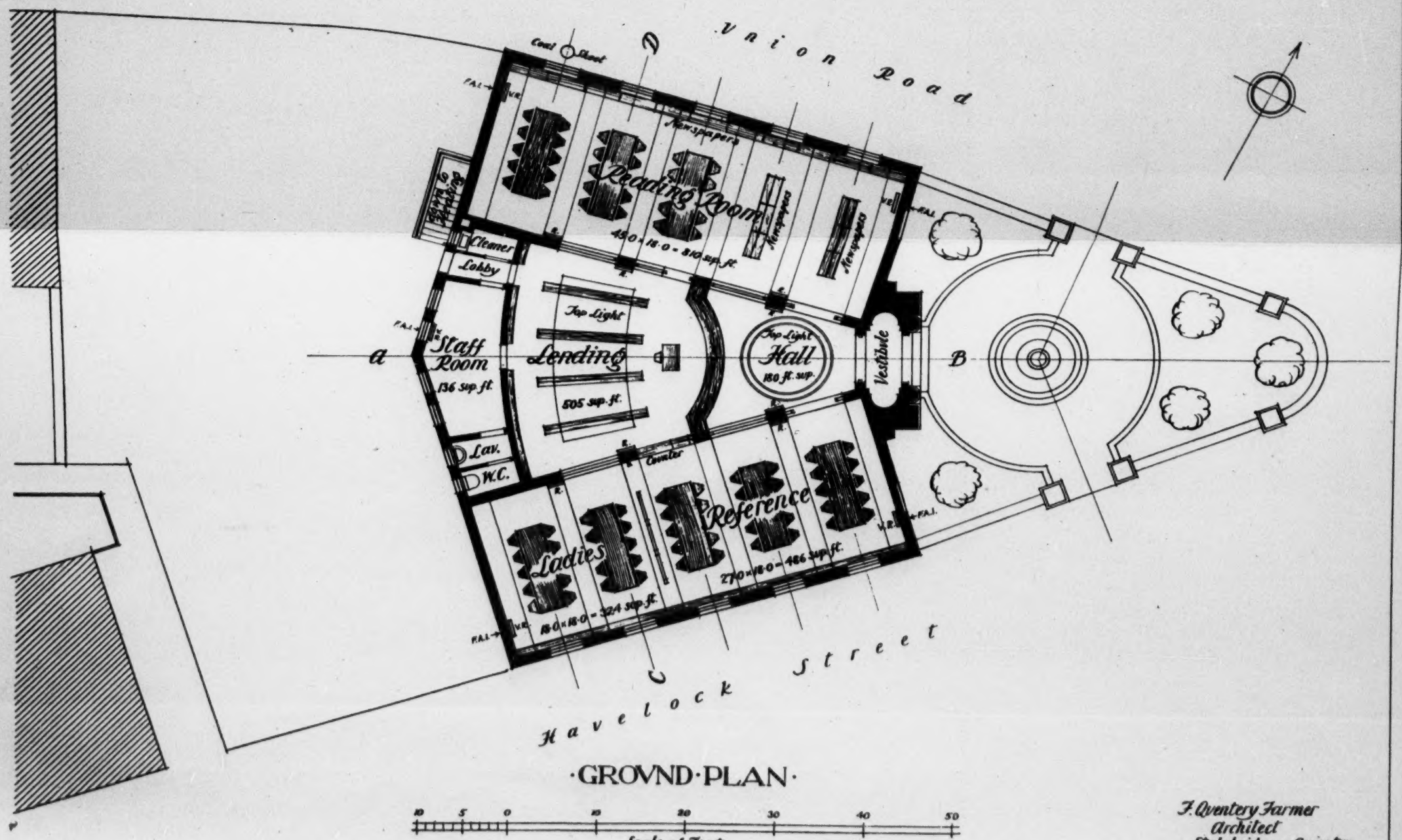

·GROVND·PLAN·

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Scale of Feet

F. Oventery Farmer
Architect
Stalybridge & Coventry

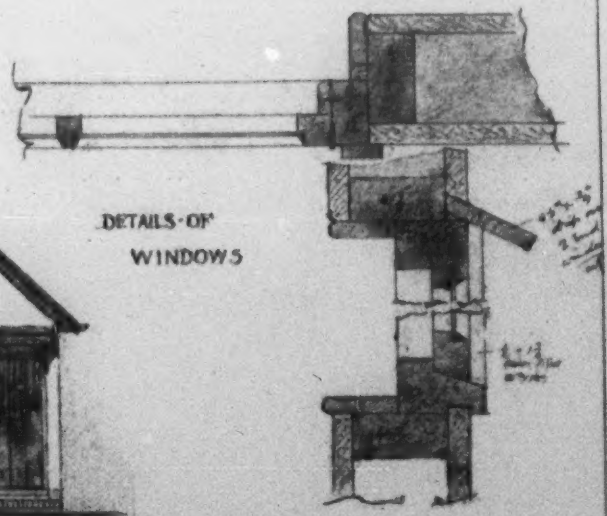
PHOTO-LITHO SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W.

FIVE-ROOM COTTAGE IN HAMPSHIRE.

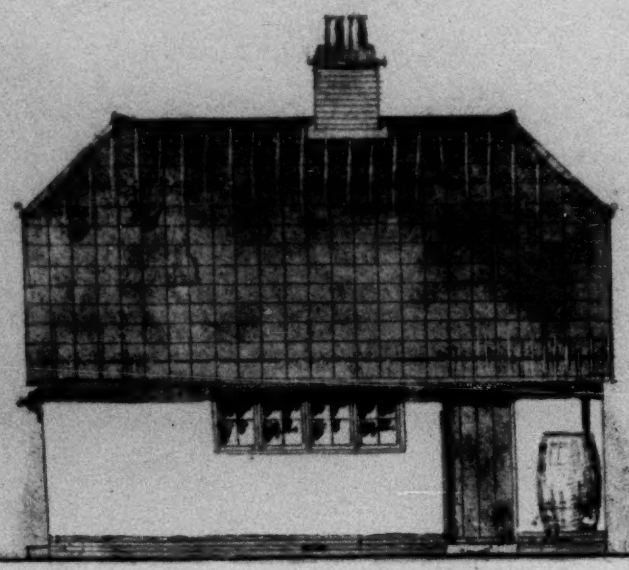
(AT DOWNTON-HORDLE.)

SOUTH ELEVATION

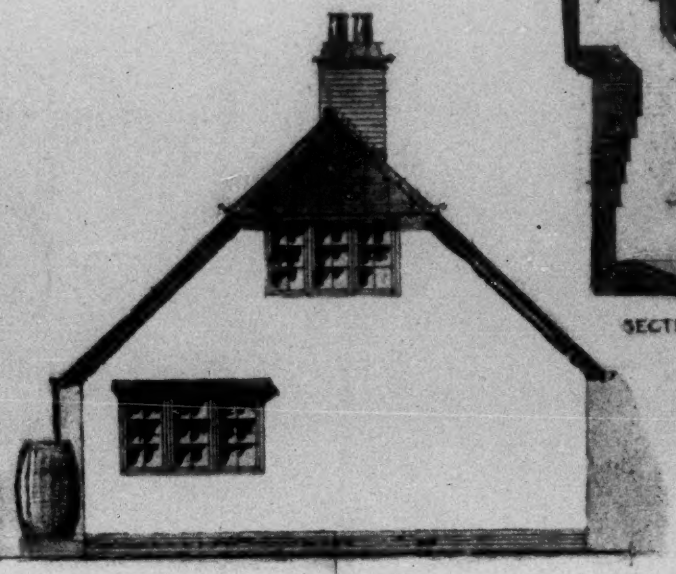
EAST ELEVATION



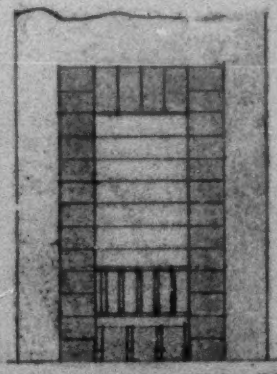
DETAILS OF WINDOWS



NORTH ELEVATION



WEST ELEVATION



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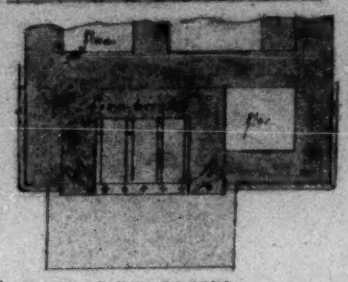

DETAIL OF FIRE-PLACES

11th APRIL 1913

F. M. Jones Arch.t

14 GRAY'S INN SQUARE LONDON W.C.

"INK-PHOTO" SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W

DETAILS OF MR. TH

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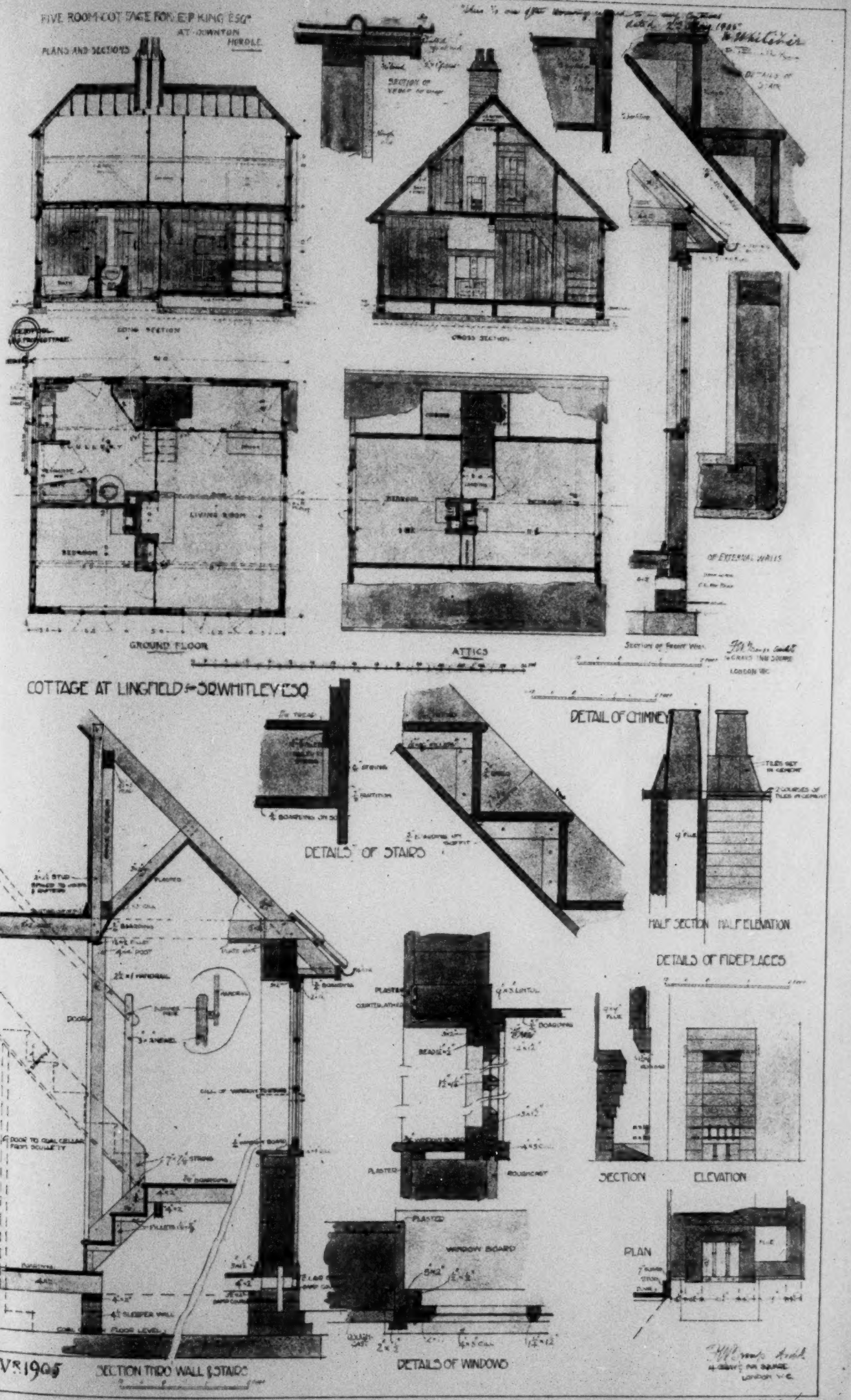
FIVE ROOM COTTAGE

PLANS AND SECTIONS



"INK-PHOTO" SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W.

DETAILS OF MR. TROUP'S TIMBER-FRAMED COTTAGE AND OF THE SAME COTTAGE AS BUILT IN BRICK.

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LEGAL SECTION.

THE LIABILITY OF BUILDING OWNERS AND CONTRACTORS FOR DAMAGE TO PERSONS AND PROPERTY.

IT sometimes happens that during the course of building operations outside persons who are parties to the building contract are themselves injured or sustain damage to their property owing to some cause or other connected with the works. Such damage will usually fall under the headings of negligence or nuisance.

Negligence.

"Negligence is the omission to do something that a reasonable man, guided upon those considerations which ordinarily regulate the conduct of human affairs, would do, or doing something which a reasonable man would not do. The defendants might have been liable for negligence, if, unintentionally, they omitted to do that which a reasonable person would have done, or did that which a person taking reasonable precautions would not have done" (Blyth *v.* Birmingham Waterworks Company, 11 Ex. 781). But there can be no legal negligence unless there is a breach of a duty to abstain from negligence; such a duty may arise either from contract or from the circumstances in which the parties are placed. In Le Lievre *v.* Gould (1893, 1 Q. B. 497) Lord Esher said:—"The question of liability for negligence cannot arise at all until it has been established that the man who has been negligent owed some duty to the person who seeks to make him liable for his negligence. What duty is there when there is no relation between the parties by contract? A man is entitled to be as negligent as he pleases towards the whole world if he owes no duty to them. Under certain circumstances one man may owe a duty to another, even though there is no contract between them. If one man is near to another or is near the property of another a duty lies upon him not to do that which will cause a personal injury to that other or may injure his property."

Nuisance.

Nuisance has been defined as "the wrong done to another by unlawfully disturbing him in the enjoyment of his property, or in some cases in the exercise of a common right" ("Pollock on Torts"). Instances of nuisance are obstructing a highway, blocking the approach to a man's house, causing such noise as renders a house inhabitable in ordinary comfort. In Harrison *v.* The Southwark and Vauxhall Water Company (1891, 2 Ch. 409) Lord Justice Vaughan Williams said:—"It frequently happens that the owners or occupiers of land cause, in the execution of lawful works in the ordinary user of land, a considerable amount of temporary annoyance to their neighbours; but they are not necessarily on that account to be held guilty of causing an unlawful nuisance. The business of life could not be carried on if it were so. For instance, a man who pulls down his house for the purpose of building a new one no doubt causes considerable inconvenience to his next-door neighbours during the process of demolition; but he is not responsible for a nuisance if he uses all reasonable care and skill to avoid annoyance to his neighbour by the work of demolition. Nor is he liable to an action, even though the noise and dust be such as would constitute a nuisance if the same, instead of being caused for the purpose of the demolition of the house, had been caused in sheer wantonness, or in the execution of works for a purpose involving a permanent continuance of the noise and dust. For the law, in judging what constitutes a nuisance, does take into consideration both the object and duration of that which is said to constitute the nuisance." It is, of course, impossible within the limits of this article to deal more fully with the subjects of negligence and nuisance as a whole. The present purpose is to consider when the building owner and when the contractor is the party liable to be sued.

Contractor Only Liable.

In cases where the work is lawful and of such a character that if carried out with due care and skill no injury to persons or property would in the natural course of events occur, the contractor, and not the building owner, will be liable. And if that portion of the work out of which the damage arises is being carried out by a subcontractor, the subcontractor, and not the contractor, will be liable, the subcontractor standing in the same relation to the contractor as the latter does to the building owner. If, however, the building owner retains control of the operations, or personally interferes with them, then he is the person responsible. In the case of Rapson *v.* Cubitt (9 M. & W. 710) the defendant, a contractor, had entered into a contract to carry out various operations at a certain house, and, amongst other things, alterations and improvements in the gasfittings. The defendant subcontracted with B., a gasfitter, to do the work in connection with the gasfittings. In consequence of B.'s negligence a large quantity of gas escaped and exploded, and in so doing seriously injured the plaintiff. It was held that the defendant was not liable. In the case of Reedie *v.* The London and North-Western Railway Company (4 Ex. 244) the defendants were empowered by an Act of Parliament to construct a railway, and employed a firm of contractors to do a portion of the work. The defendants retained the right to dismiss incompetent workmen employed by the contractors. During the progress of the work, owing to the negligence of the contractors' workmen, the plaintiff's husband, who was passing along a road, was struck and killed by a heavy stone which fell from a travelling truck. It was held that the defendants were not liable, and that the fact that they were entitled to dismiss incompetent workmen did not alter the case. "But this power of removal does not seem to vary the case. The workman is still the servant of the contractor only, and the fact that the defendants might have insisted on his removal if they thought him careless or unskilful did not make him their servant." In Knight *v.* Fox and Henderson (20 L. J. Ex. 9) the defendants, who had contracted to construct a tubular bridge across a highway in London, subcontracted with C. to erect the necessary scaffolding, the defendant finding the materials, including the gaslights. C. was employed at a yearly salary by the defendants to attend to their general business in London, but he was paid a further sum of £40 for this work. C. kept separate books, and himself engaged and paid the men employed in erecting the scaffolding. One of the poles used in the work was so placed as to form an obstruction on the pavement, and by reason of the obstruction being insufficiently lighted the plaintiff fell over it and broke her leg. After the accident additional lights were put up, and these were paid for by the defendants. It was held that the defendants were not liable. "C. was not the servant of the defendants for this purpose. As to the contract for the scaffolding, he was quite independent. It is the same as if the defendants had contracted with a third person."

Injury Owing to Falling Tools.

In the case of Pearson *v.* Cox and others (2 C. P. C. 369) the defendants, B. & B., a firm of contractors, entered into a contract with the defendant Cox, who was the owner of certain land to erect certain buildings thereon. After the outside of the house was finished B. & B. removed the hoardings. B. & B. employed S., a plasterer, under a subcontract to do the inside plastering. A workman employed by S., in walking along a plank, caused it to spring, and so throw down a straightedge which was standing against a plank. The tool fell out of the window and injured the plaintiff. The jury found (1) that the defendants did not fail to keep up the hoarding as long as the public safety required its continuance; (2) that the injury to the plaintiff was not caused by such failure; (3) that the injury to the plaintiff was caused by the negligence of the defendants B. & B. in not providing some other protection for the public. The plaintiff appealed. Lord Chief Justice Coleridge said:—"I am of opinion that this judgment ought to be affirmed. The building was up to a certain time protected by a hoarding, which was then removed; and the jury have found that further protection by the hoarding was unnecessary, therefore nothing turns on its removal. There remained, however, certain internal work to be done by the subcontractor, and his man put a tool called a straightedge against some planks, which were afterwards shaken, and this caused the straightedge to fall out of the window and hurt the plaintiff. The plaintiff has brought an action against the builders of the house, and not against the plasterer whose servant was using the straightedge. In my opinion such an action cannot be maintained. The case against these defendants was put upon two grounds—first, that the falling of the straightedge was a thing for which they were personally responsible; secondly, that there was a general duty imposed on the defendants to guard against accidents. But that must mean accidents which could reasonably be foreseen, and there was no evidence that this was such an accident. No doubt the accident has happened, and may happen again, but the falling of a tool in this manner is not such a probable accident in the plastering of the interior of a house that it could reasonably have been foreseen." In the recent case of Padbury *v.* Holliday & Greenwood, Ltd. (28 T. L. R. 494), the facts were very similar to those in the last case, the defendants employing subcontractors to put metallic casements into the windows. A casement was blown to by the wind, in consequence of which an iron tool, which was on the sill, fell out and struck the plaintiff. The tool was not placed on the sill in the normal course of work. The jury found:—(1) That the falling of the tool was a thing which might reasonably have been foreseen by the defendants having regard to the character of the work being executed by the subcontractor; (2) that the defendants ought reasonably to have foreseen such a possibility; and (3) that the defendants did not take precautions to avoid such a possibility. Judgment was given for the plaintiffs, and the defendants appealed. In the course of his judgment Lord Justice Fletcher Moulton said:—"That in this case the tool was not placed in the window-sill in the normal course of doing the work which the subcontractors were employed to do. The fact that the work which was being done was work to the window seemed to him to be immaterial. He thought that the case would have been the same if the work had been purely internal work. He could see no reason for saying that the operation of putting the casement into the window caused the tool to be placed on the window-sill or to fall off. The injury here was caused by an act of collateral negligence on the part of a workman who was a servant of the subcontractors, and not of the defendants, and the defendants were not liable for the consequences of that negligence. He therefore thought that the appeal should be allowed and judgment entered for the defendants."

Control by Owner.

It is impossible to say precisely what amounts to control by a building owner or what amount of interference by him is necessary to render him liable. The case of Steel *v.* South-Eastern Railway Company (16 C. B. 550) affords an interesting illustration on this point. There F. contracted with the defendants to construct a railway embankment, for which purpose he had to excavate a road. In so doing he cut into a culvert, water from which overflowed on to the plaintiff's land and damaged his crops. The work was carried out according to plans furnished by and under the superintendance of P., the defendant's surveyor. F.'s foreman, in giving evidence, said:—"I had orders to go on from P. P. was the person who told me what to do. But I was the responsible person to determine in what manner that which P. directed me to do should be carried out." Evidence was also given that P. had directed the foreman to cut through only half of the road at once, and that the flooding was the result of the workmen having cut through the whole road at once. It was held that the defendants were not liable. Mr. Justice Creswell said:—"The person who did the work proved that he was employed by F. If it could have been shown that the plaintiff's land was flooded in consequence of something done by the orders of P., the company's surveyor, it might perhaps have been said that that was the

same as if P. had done it with his own hands, and the company would have been responsible. But it seems that the order given by P. was to do the work in a different manner from that adopted by F.'s men."

Lending Services of Workmen.

Where the contractor lends his workmen to a subcontractor he does not thereby render himself liable for the negligence of his workmen whilst under the control of the subcontractor. The same principle, of course, applies where the building owner lends his workmen to the contractor. "Where a person lends his servant to another for a particular employment the servant for anything done in that particular employment must be dealt with as the servant of the man to whom he is lent, although he remains the general servant of the man who lent him" (Rourke *v.* White Moss Colliery Company, 2 C. P. D. 205). "The question is not who procured the doing of the unlawful act, but depends upon the doctrine of the liability of the master for the acts of his servant done in the course of his employment. We have only to consider in whose employment the man was at the time the acts complained of were done in this sense—that by the employer is meant the person who has a right at that moment to control the doing of the act" (Donovan *v.* Laing Warton and Down Construction Syndicate, Ltd., 1893, 1 Q. B. 629). A test is: "Did the defendants retain the power of controlling the work?" (Sadler *v.* Hemlock, 14 E. & B. 570).

Building Owner and Contractor both Liable.

Where the work is in itself lawful, but is of such a kind that it may be reasonably expected that its execution may cause injury to persons or property unless steps are taken to guard against such consequences, both the building owner and contractor will be liable if damage ensues on the principle that no man can shift his legal responsibility on to another's shoulders. When a man employs a contractor to do work of such a kind he takes upon himself the responsibility of seeing that the contractor takes all proper precautions; it is no excuse to say that he did not know that the contractor was or was not doing this or that. Whether "the building owners knew of it or not does not matter, because if they did not know they ought to have known of it" (Hill *v.* The Tottenham Urban District Council, 79 L. T. 495). And in Hole *v.* The Sittingbourne and Sheerness Railway Company (30 L. J. Ex. 81) Lord Chief Baron Pollock said:—"It is his duty to know what is being done and to see that no mischief is arising or injury occasioned. He cannot say as a sufficient answer: 'I have contracted with a party to do it according to the proper course . . . and therefore I am not liable for any negligence or damage, but he is.'" Of course, as in the last case, the same principles as to contractors and subcontractors apply; if in the cases quoted for "building owner," "contractor" is read, and for "contractor" "subcontractor," the principles laid down will hold equally. In the case of Bower *v.* Peate (1 Q. B. D. 321) Lord Chief Justice Cockburn said:—"The plaintiff and defendant were the owners and occupiers of two adjoining houses, and it appeared that, prior to the rebuilding of the defendant's house, as hereinafter mentioned, the walls and foundations of the plaintiff's house went to a lower level than those of the defendant's. The defendant, having determined to pull down his old house and to build another on the same site, proposed to carry the foundations and walls of his new house to a lower depth than those of the plaintiff's, for which purpose it would be necessary to excavate and remove the soil which, before the alteration, was adjacent to the plaintiff's house and land, and by which it had been supported. In order to do this without injury to the plaintiff's house the well-known practice of underpinning, or some other safe mode of supporting or shoring the plaintiff's walls and soil during the operation, would, as was well known, have to be resorted to. For the purpose of rebuilding the house and executing the other necessary works the defendant entered into a contract with the builder named R., by which R. contracted to do all the necessary works. The contract contained the following clause:—'And the said R. further agrees to take upon himself the risk and responsibility of shoring and supporting, as far as may be necessary, the adjoining buildings affected by this alteration during the progress of the works, and to make good any damage that may be sustained by the said buildings during the progress or in consequence of the said works hereby contracted for, and to satisfy any claims for compensation arising therefrom which may be substantiated.' After the execution of this contract R., the contractor, pulled down the defendant's house and excavated the soil to a lower depth than the foundation of the walls of the plaintiff's house and rebuilt the defendant's house. But, owing to defective unpinning or want of other support to the plaintiff's soil and walls, in the course of these operations injuries occurred to the plaintiff's house which gave rise to this action. No question was made on the argument as to the right of the plaintiff to the support of the adjacent soil of the defendant for his house, nor was it doubted that the injuries to the house of which the plaintiff complained had been occasioned by the removal of such soil in the execution of the defendant's works. But it was contended that the defendant, having committed the execution of the works to the contractor, both as regarded the taking down and rebuilding of his house and the measure necessary for the protection of the adjoining house, the contractor, and not the defendant, became liable for any injury arising from want of care in shoring or otherwise supporting the plaintiff's house. . . . The answer to the defendant's contention may, as it appears to us, be placed on the following ground, namely:—That a man who orders a work to be executed, from which in the natural course of things injurious consequences to his neighbour must be expected to arise, unless means are adopted by which such consequences may be prevented, is bound to see to the doing of that which is necessary, and cannot relieve himself of his responsibilty by employing someone else—whether it is the contractor employed to do the work from which the danger arises or some independent person—to do what is necessary to prevent the act he has ordered to be done from becoming wrongful. There is an obvious difference between committing work to a contractor to be executed from which, if properly done, no injurious consequences can arise and handing over to him work from which mischievous consequences will arise unless preventive measures are adopted. While it may be just to hold the party authorising the work in the former case exempt from liability for injury resulting from negligence which he had no reason to anticipate there is, on the other hand, good ground for holding him liable for injury caused by an act certain to be attended with injurious consequences if such consequences are not, in fact, prevented, no matter through whose default the omission to take the necessary measures for such prevention may arise. . . . The wrongful act was an act done by the order and authority of the defendant—in other words, was the act of the defendant—and no man can get rid of liability of injury occasioned to another by a wrongful act by seeking to throw the responsibility on an agent whom he has employed to do the act. The agent may no doubt be responsible, but the responsibility of the principal is none the less. . . . We are of opinion that our judgment should be for the plaintiff."

Ancient Buildings.

When ancient buildings—*i.e.*, buildings more than twenty years old—adjoin each other there is a right to support not only as in Bower *v.* Peate from the adjacent land, but also from the buildings themselves. In Lemaitre *v.* Davis (19 C. D 281) the plaintiff was the lessee of certain premises known as the Mitre Tavern, on one side of which there was a vault, which belonged to, and was occupied with, the Mitre Tavern. Over the vault there was a layer of earth about 3 ft. in depth and weighing about 30 tons. The vault extended to and underlay adjoining premises, the property of the defendant. The east wall of the vault was supported by the west wall of the defendant's house. The defendant caused his premises to be pulled down, and, in so doing, caused the west wall of his cellar to be removed, and did not supply any shores or supports; the layer of earth on the vault was removed, leaving the crown of the arch bare by such removal. The east wall of the vault fell out of the perpendicular, the arch cracked in several places, and the vault was rendered unsafe. C., the contractor, was made a co-defendant. The defendant Davis pleaded that he had contracted with C. to rebuild his premises. The specification set forth *inter alia* that C. was to provide all shores that might be necessary, that he was to bear all responsibility in respect of such work, that he was to provide all proper protection for adjoining buildings, and to hold Davis free from all direct or indirect damages. The specification also gave directions as to how the work was to be done. It was argued on behalf of Davis that the injuries complained of would not have happened if the contract had been carried out with due care, that none of the acts complained of were necessary under the contract, and that consequently he was not liable. In giving judgment Vice-Chancellor Hall said:—"Then comes the question whether the defendant Davis is liable for the injury which has taken place or whether the injury is the result of the wrongful act of the contractor for which the defendant Davis is not responsible. . . . The works were to be done by the defendant Davis in the ordinary course by a contractor, and the contract and specification, properly read, must be taken to include the works which were done and which were not objected to as being done under them. The defendant Davis, doing the work with the assistance of a contractor, was doing his own works, and it was his duty to see that the works were properly done and that certain precautions were taken, either by himself or his agent, by striving to prevent any injury to his neighbour's vault. Such precautions were not taken. The defendant Davis cannot shift his responsibility from himself by saying that he employed a contractor and that it was his wrongful act. It would be a strange thing if principals were allowed to escape from liability when altering their premises and erecting new buildings by saying that they employed contractors under specifications which were drawn up for their guidance and that the contractors only were liable for any injury which might happen. . . . I hold that both defendants are liable for the injury which was done."

Party Walls.

In the case of Hughes *v.* Percival (8 A. C. 443) "the defendant was the owner of a house adjoining the plaintiff s, and between them there was a party wall, the property of both. The defendant s house also adjoined a house belonging to B., and between them there was a party wall. The defendant employed A., a contractor, to pull down his house and rebuild it on a plan which involved the tying together of the new house and the party wall between it and the plaintiff's house, so that if one fell the other would be damaged. In the course of the work A.'s workmen, in fixing a staircase, negligently and without the defendant's knowledge, cut into the wall between the defendant's house and B.'s, in consequence of which the defendant's house fell, and in falling dragged over the wall between it and the plaintiff's house. The cutting into the party wall was not authorised by the building contract." Lord Blackburn said:—"The first point to be considered is what was the relation in which the defendant stood to the plaintiff. It was admitted that they were owners of adjoining houses between which was a party wall, the property of both. The defendant pulled down his house and had it rebuilt [on the plan stated above]. The defendant had a right to utilise the party wall, for it was his property as well as the plaintiff's—a stranger would not have had such a right. But I think the law cast upon the defendant a duty towards the plaintiff. I do not think that that duty went so far as to require him to provide that no damage absolutely should come to the plaintiff's wall from the use he thus made of it, but I think that duty went so far as to require him to see that reasonable skill and care were exercised in these operations, which involved a use of the party wall, exposing it to this risk. . . . The question is: Was the operation during which the defendant's duty required him to see that reasonable care and skill should be used over at the time when those engaged in the work cut into the party wall? For it is not disputed that there was a want of skill in doing this, and that it caused the damage; and it is not disputed that the men who did it were intending to carry out the work on which they were employed. The defence was directed to this: that the contractor was bound not to do anything without written authority and that there was no authority at all to cut into the party wall. I do not think that could prevent the act which was done from being in breach of the defendant's duty."

What are Dangerous Works?

And Lord Watson said:—"The defendant does not deny that many of the operations which he contemplated, and which

he had employed a contractor to execute, were such as would necessarily or possibly imperil the stability of the party wall if no precautions were used; nor does he dispute that it was incumbent upon him to see that these operations were safely carried out by the contractor. What he did allege was that all these hazardous operations had been brought to a safe termination months before the occurrence which resulted in damage to the plaintiff's house. Now, looking at the terms of the contract and the specifications, I think it does appear that extensive structural operations, fraught with obvious risk to the party wall in question, had been carefully and successfully executed; and if I had been able to come to the conclusion, in fact, that after these were completed there remained nothing to be done by the contractor which could reasonably be supposed to involve danger to the party wall I should have been disposed to decide for the defendant. I do not think that the combination in one contract of operations hazardous and operations in no reasonable sense hazardous can affect the character of these operations or impose upon the employer legal duties and liabilities to which he would not have been subject had he employed a different contractor for each operation. But I am not satisfied that the fitting up of a wooden staircase from the basement floor of the defendant's tenement to the cellar was an operation which could occasion no risk to the party wall. It was an operation which might be executed in at least two different ways, either by cutting a groove in the party wall and inserting in it one of the wooden stringers supporting the stair or by leaving the wall untouched and fixing the staircase outside of it. I see no reason to doubt that the latter method would have been unattended with danger to the wall against which the stair was to be placed or to the party wall in which the plaintiff is interested. The other method was, as the result showed, attended with serious danger to both these walls, and I cannot find any suggestion to the effect that no one could have reasonably anticipated that a workman might cut the wall in order to let in a stringer. The statement which was very strongly and repeatedly made regarding it is that the cutting of the wall was unnecessary, and was not only unauthorised but positively forbidden. Unnecessary it certainly was, because the staircase might have been securely fixed without interfering with the wall. Unauthorised and forbidden it also was in this sense, that by the terms of the contract and specification the contractor was bound to leave the wall untouched. But the terms of the contract and specification are of no relevancy as in a question with the plaintiff. If there were any reason to suppose that an ordinary workman entrusted with the job might cut into the wall the defendant took a very proper precaution when he bound his contractor not to cut it, but he failed in his duty to the plaintiff when he permitted the contractor and his workmen to neglect that precaution. I am of opinion that the defendant could not establish a good defence to the plaintiff's claim by simply proving that it was not in the least necessary to cut the wall and that the contractor was under an obligation not to do it. It appears to me that he could not escape from liability unless he further proved that it could not have been reasonably anticipated that any workman of ordinary skill in such operations, who was neither insane nor dishonest, would have dreamt of cutting the wall."

Sewers.

In Blake *v.* Thirst (8 L. T. 251) the defendant contracted with a local authority to construct a sewer, and subsequently entered into a sub-contract with N., by which N. agreed to do all the excavation, lighting, and watching. In order to carry out his work N. had to dig a hole in a public road, and accordingly did so. Light from neighbouring shops gave what was, in N.'s opinion, sufficient light to guard against any danger from the hole, and when the shop lights went out N. put up the usual lights. The plaintiff one evening fell into the hole while it was lighted only by the shop lights, and was thereby injured. Judgment was given for the plaintiff, and the defendant appealed, on the ground that N. was the person liable, as it was his duty to see that the hole was properly lighted. Lord Chief Baron Pollock said:—"It seems to me a very plain case. The hole in the road which was the cause of the injury was made by the defendant under his immediate direction. The hole so dug was not protected, watched, or properly lighted, in consequence of which the accident occurred, and I think the defendant himself is liable for it." And Baron Bramwell said:—"One way of looking at this case is: Had the defendant a right to control the work in which the things necessary were to be done? If he had (and I think he had) then it appears to me he is liable. The defendant agreed with the local authority to do the work required; he then sublet the excavating, watching, and lighting to one other person. But suppose the defendant had made two contracts for it, one to one person to make the excavation and another to someone else to watch and light it, would he not then have been liable? So he is in the same way liable now, although there is only one contract." In Burgess *v.* Gray (14 L. J. C. P. 185) the defendant, who was the owner of certain houses, employed P., a contractor, to construct drains to connect them up with the common sewer. P.'s workmen left a quantity of gravel and soil on the roadside, a portion of which was subsequently removed by a workman employed by P. and paid at so much per load P. charged the sum so paid to the defendant. It was shown that the defendant was constantly on the spot superintending the work, and that when his attention was called to the obstruction he said he would have it removed. The judge told the jury that if they thought that the defendant had handed over all control of the work to P. he was not liable, but that if he had personally retained any control then he was liable. The jury found for the plaintiffs, and on appeal it was held that "there was evidence quite sufficient to satisfy the jury that the matter was under the personal control of the defendant."

Work in Itself Unlawful.

Where the work to be done is in itself unlawful then the building owner and contractor both are liable. In the case of Ellis *v.* The Sheffield Gas Consumers' Company (2 E. & B. 767) W. contracted with the defendants, who wished to lay gas-pipes in a certain street in Sheffield, to open the necessary trenches, and after the gas-pipes had been laid to fill up the trenches and make good the surface and flagging. In filling up the trenches W. left a mound of rubble on the footpath. This mound was admitted to constitute a public nuisance, the defendants having in that particular case no authority to open up the street. The plaintiff fell over the mound and broke her arm. Lord Chief Justice Campbell said:—"I am clearly of opinion that if the contractor does the thing which he is employed to do the employer is responsible for that thing as if he did it himself. . . . In the present case the defendants had no right to break up the streets at all; they employed W. to break up the streets, and in so doing to heap up earth and stones so as to be a public nuisance, and it was in consequence of this being done by their orders that the plaintiff sustained damage. It would be monstrous if the party causing another to do a thing were exempted from liability for that act, merely because there was a contract between him and the person immediately causing the act to be done."

Work Done under Statutory Authority.

Where the work to be done is authorised by statute, then, provided that the powers given by the statute are not exceeded, and there is no negligence, neither the building owner nor the contractor will be liable; but if the powers given by the statute are exceeded, or the work was not necessary to carry out that which was authorised by the statute, then the same principles as those stated above will apply. A good illustration is afforded by the case of Joliffe *v.* Woodhouse (10 T. L. R. 555). There the plaintiff was the tenant of a house which adjoined one belonging to the defendant. The defendant pulled his house down, intending to rebuild it, and it was then found that the party wall between the two houses was not strong enough to support the new house, and accordingly the plaintiff served the defendant with a notice under the Metropolitan Building Act, 1855, of his intention to pull down the party wall. The wall was pulled down in February, and the new wall was completed in the following August. The defence was that the acts complained of were done under statutory authority, and that as the defendant had provided a competent architect and contractor to do the work he was not responsible for unreasonable delay in completing the work caused by their negligence. Lord Justice Lindley said:—"It was said that the defendant was not liable for the injury caused by the delay in rebuilding because he had employed a proper architect and a proper builder and that they were responsible for the negligence, if any, which gave rise to the delay. A person who sought to knock down a party wall for the purpose of rebuilding it had a right to do so both at common law and by statute, but it was his duty to rebuild it with reasonable dispatch. Here the plaintiff had a cause of action against the defendant for a breach of that duty, and it was no answer to say that the defendant had delegated that duty to another. A man could not delegate a duty, and the class of case in which an employed had engaged a competent contractor was not held liable for the negligence of the contractor had no application. The defendant might employ a contractor if he chose, but that did not enable him to get rid of the duty which he owed to the plaintiff."

Indemnity.

Of course, the contract may provide that the building owner shall be indemnified by the contractor for any loss he may be put to by reason of any damage which may result. An interesting case in which such a clause was inserted in the contract is that of the Ilford Gas Company *v.* the Ilford Urban District Council (67 J. P. 365). Here the defendants entered into a contract with J., a contractor, by which the latter agreed to carry out certain works, including the construction of a new sewer in a highway known as Green-lanes. The contract provided that the work should be carried out according to the plans and specifications and according to such working and explanatory drawings and instructions as should from time to time be furnished by the defendants' engineer, and that the contractor should make such alterations, additions, and omissions to and from the works as described in the plans and specifications as he should be required to do by order in writing from the clerk of the Council or the engineer, and no others. Clause 7 was as follows:—"Any damage or loss which may happen to the works, or the materials, implements, or tackle therein used during the progress thereof, which shall arise from theft, spoiling, decay, waste, rain, or fire, shall be made good by the contractor to the satisfaction of the engineer without any extra charge. And the contractor shall save the District Council harmless and indemnified from all claims and actions for, or in respect of, any damage or injury to persons or property arising from or occasioned by the neglect, default, or misconduct of the contractor, or of any person employed by the contractor, or otherwise howsoever from or by the execution of the works." In the course of constructing the sewer J., in three different places, met with a gas main belonging to the plaintiffs. The gas main was at an average depth of 2 ft. under the surface and the sewer trench 12 ft. The engineer gave J. a written order to place "9-in. brick piers and concrete under gas main in Green-lanes," and the order was carried out. Some little time after, when the sewer trench had been filled in, the plaintiffs discovered that the gas main had been fractured at two out of the three places where it had been met with and that there was a considerable escape of gas. The action was brought for damages for the defendants' negligence in the construction of the sewer. The defendants brought in J. as third party against any damages that might be recovered against them. Judgment for £200 was entered to the plaintiffs, and it was held that J., whether he had been guilty of negligence or not, was liable to indemnify the defendants, and accordingly judgment was entered against him for (1) £200; (2) costs payable by the defendants to plaintiffs; (3) the defendants' own costs in defending the action; and (4) the defendants' costs of the third party proceedings. From this judgment J. appealed, and the appeal was allowed. Lord Justice Vaughan Williams said:—"The whole case really turns now upon the construction of the contract. Since the matter was before us on the last occasion an issue has been tried by a jury, and the issue was this: "Whether the injury complained of was due to the nature of the work which the third party as contractor was bound or directed to execute, or whether the injury was due to the mode in which the work was executed." And the result of the finding of the jury is that the injury complained of was due to the nature of the work which the contractor was bound to execute, and was not due to the mode in which the work was executed. It is really in consequence of that finding that this case is now

absolutely limited to the question of the construction of Clause 7. Before I deal with the very words of this clause I wish to make one observation about a case like the present. We have got a case in which there is a building owner and a contractor, and by the terms of the contract the contractor has to build according to plans prepared by an architect or engineer attending on behalf of the building owner, and is bound to obey the instructions of that engineer or architect, and is not allowed to do any works at all excepting those which are thus prescribed. *Prima facie* it is plain that the responsibility for injuries arising from the nature of the prescribed work must rest upon the building owner. Speaking for myself, I may say that when once you have arrived at that state of things, when you come to construe the clauses in the contract, you should not relieve the building owner of the *prima facie* liability unless he has used words in the contract which make it perfectly clear that it was the intention of the contracting party that he should be so relieved. . . . I now turn to Clause 7 and see what it says. It runs thus [the learned judge read the clause set out above]. The argument on behalf of the local authority who seek to make the contractor liable is that we ought to construe the words 'execution of the works' as meaning the fact of the works having been executed, and really whenever the proposition was put to [the counsel for the defendants] did they mean to urge upon the court that such a construction ought to be put upon this clause as to make the contractor guarantee that the prescribed works should be sufficient for the object intended. They always shrank from going that length. But if you do put upon the words 'execution of the works' here the construction that they ask for they are bound to accept that proposition, which is involved in the question I have mentioned, as being the necessary outcome of the construction they seek to put upon it. The strongest argument which was urged upon us here to make us put that construction upon these words was: It was said if you do not put that construction upon these words you are giving no meaning at all to the words 'or otherwise howsoever from or by the execution of the works,' because it was said really if you limit the words 'execution of the works' to the process of execution you are limiting the responsibility of the contractor to what counsel called his common law liability—that is, his liability for his own neglect, default, or misconduct. I cannot agree with that. It seems to me that these words 'or otherwise howsoever from or by the execution of the works' considerably enlarge the liability beyond his common law liability. I think what these words meant was this: that during the execution of the works the contractor was to take upon himself the liability for any accidents which occurred during that period—that is, during the period of the works, and there would be all sorts of liabilities which might arise to the contractor during the progress of the works without any neglect, default, or misconduct on his part or on the part of his servant. I think that not only was that the intention with which these words were put in, but I think that it was very reasonable to put them in. While the works are actually being executed the contractor is obviously the man who must have within his knowledge how everything happened, and it is only reasonable to say that the care of the works and the responsibility for what happens during their execution shall be thrown upon the contractor. But that is a very different thing from, on the one hand, saying the contractor has only a common law liability and is only left liable for neglect or default, or, on the other hand, from saying that the contractor is to be responsible for everything that occurs from the mere fact of the works having been executed in accordance with the prescribed plans, and, under those circumstances, it seems to me that the proper legal result in this case is to say as this particular damage resulted really merely from the existence of the works the local authority are not entitled to any indemnity from their contractor in respect thereof."

Damage Due to Water.

In the same case, in the course of his judgment, Lord Justice Stirling gave an instance of damage for which, under such circumstances, the contractor would be responsible:—"There might, in the execution of works such as these, arise many liabilities which would not be covered by those words at all. I will merely suggest one which occurs to me: The soil is disturbed. It is not left in its natural condition. The specification provides for the dealing with water discovered in the course of the operation. It may become necessary for the construction of the works, and in carrying them out, to dam that water up; and the contractor or some person bringing on a site water which is not naturally there is not entitled to escape from the consequences of any damage that arises. This is the sort of accident which might occur, and which is not covered by the words 'neglect, default, or misconduct.'"

SANITARY NOTICES.

It is by no means easy either for builders or property owners to keep themselves acquainted with all the details of the Acts of Parliament which are passed in the interests of public health. To understand the "statutes at large" is difficult enough for a lawyer; while it is almost impossible even for him to follow all the private Acts which give wide powers to municipal Corporations in different parts of the country. If it is difficult for the lawyer to keep pace with current legislation, how much more difficult is it for the layman? Indeed it often happens that the owner of property is first made acquainted with the provisions of a new Act by the receipt of a notice calling upon him to effect some improvement at considerable expense. We have recently come across a case of this kind. A manufacturer, who owned a large factory and a model village in the neighbourhood of a borough in the Midlands, received notice from the Town Clerk calling upon him to make certain improvements. He was ordered to provide water-closets in his cottages within a month. If he failed to comply the Corporation were to be at liberty to do the work and charge the cost to him. As it was holiday-time, he let the notice "lie on the table" for three weeks, when he consulted his solicitor. It was then found, on looking at the statute which gave the Corporation power to serve the notice, that there was a right of appeal to a Court of Summary Jurisdiction within a fortnight of the day when the notice was served. The fortnight, of course, had elapsed before the manufacturer awoke to a sense of his liability, and there was no power in any Court or person to extend the time. In the result he was advised that there was nothing for it but to comply with the notice. The moral of this case is that as soon as a sanitary notice of a novel kind is served the recipient, whether he be builder or building owner, should at once consult a solicitor as to his rights.

LEGAL CORRESPONDENCE COLUMN.

Note.—Answers to inquiries in this column are furnished gratuitously, and strictly on the understanding that no legal liability or responsibility of any kind is accepted or incurred thereby. Correspondents who desire to make use of this column, while supplying their names and addresses in full to the Editor, should also give a nom de plume under which the inquiry can be answered.

RESTRICTION.—The restriction against practising as an architect within the radius and for the period mentioned would probably be held to be void on the ground of public policy, as not being reasonably necessary for the protection of the employer.

ANCIENT LIGHTS.—(*a*) *Prima facie* a covenant to keep in substantial repair would carry the obligation on the tenant's part to do the drainage in question. Having regard, however, to the statement that the drains had not been good for years before the commencement of the tenancy in question, the principle of Proudfoot and Hart would probably apply to this case, and regard would be had to the condition of the premises at the commencement of the lease, and the tenant's liability mitigated accordingly.

(*b*) As to whether the terms of the lease cover all dilapidations depends entirely on the actual wording of the repairing covenants. If there are full painting and papering covenants, followed by a covenant to yield up the premises at the end of the term in complete repair in accordance with such foregoing covenants, the tenant would be liable for all dilapidations, and to hand over the premises repainted and repapered. It is not possible, however, to express a definite opinion on the point without reference to the whole terms of the covenant.

FINANCE AGREEMENT.—The provision in question would probably be held bad, as a "clog on the equity of redemption": once a mortgage always a mortgage, and the builder in the circumstances mentioned would certainly be allowed to redeem his property on payment of principal interest and costs notwithstanding the terms of the agreement.

LAW REPORTS.

COURT OF APPEAL.

(Before the MASTER OF THE ROLLS and Lords Justices SWINFEN EADY and PHILLIMORE.)

Postmaster-General's Action against Council. The Postmaster-General against the Hendon Urban District Council.

THIS case was heard on Monday upon the appeal of the Postmaster-General from a decision of the Railway and Canal Commissioners, consisting of Mr. Justice Bankes, the Hon. A. E. Gathorne-Hardy, and Sir James Woodhouse, in relation to differences which had arisen between the Post Office and the Hendon Urban Council as to placing telegraph poles and wires in certain roads within the jurisdiction of the Council.

It appeared that there were three roads within the Council's jurisdiction which had been laid out, but none of which at the date of the action had then been taken over by the Council. The postal authorities desired to place telegraph wires and poles along those roads, and made the usual application for authority, which the Council declined to give. The case then went before the County Court Judge, when the Council raised the point that the roads had never been dedicated to the public, and the County Court Judge, having decided in favour of the Council, the Postmaster-General appealed. The Council admitted that the three streets were public roads, and that as regards one of them notices had been served upon the frontage owners requiring them to make up the roads. The only point which the Court had to decide was whether the roads were under the control of the Council. Sect. 13 of the Act provided that where anyone was responsible for the repair of the road the consent of such person must be obtained before any poles or wires could be placed over or along same. It had been contended that the roads, not having been taken over by the local authority, were not under the Council's control; but, on the other hand, it was contended by the Postmaster-General that the obligation to repair the road was not necessary in deciding whether the road was under their control.

Mr. Justice Bankes and the Commissioners held that the present case could not be distinguished from that of the Reigate Rural Council case, in which the Divisional Court had held that a street did not come under the control of a local authority until it was taken over, and they entered judgment in favour of the Hendon Council, but, in the circumstances, without costs.

The Attorney-General, the Solicitor-General, and Mr. Bremner appeared in support of the appeal; and Mr. Foote, K.C., and Mr. Goddard for the District Council.

The Attorney-General, having dealt exhaustively with the statutes bearing on the subject, contended that the "body having the control of the street" was an expression as used in the statutes which covered the highway authorities, and that local authorities had, within the meaning of the Telegraph Acts, the control of the street, whether it was a street vested in them or whether it was a highway not vested in them, and therefore that the decision of the Commissioners was wrong.

Mr. Foote, on behalf of the Council, contended that the Council was not a body having the control of the streets in question, and he said he did not raise any question as to the nature of the streets and highway. He submitted that in the circumstances the decision of the Commissioners was right upon the various statutes governing the subject, and that the appeal ought to be dismissed.

At the conclusion of the arguments, their Lordships held that the Hendon Urban District Council, within the meaning of the statutes bearing on the question in dispute, had not the control of the streets or roads in question. They therefore held that the judgment of the Railway and Canal Commissioners was right, and dismissed the appeal.

DIVISIONAL COURT.

(Before Justices BRAY and LUSH.)

Trollope & Colls, Ltd. *v.* Singer.

THEIR Lordships recently had before them a motion by Mr. W. M. G. Singer, of Norman Court, near Salisbury, to set aside the award of an arbitrator (Mr. H. H. Wigglesworth) in a dispute between Messrs. Trollope & Colls, Ltd., builders, and himself.

Mr. A. A. Hudson, K.C., and Mr. C. Willoughby Williams (instructed by Messrs. Hyde, Mahon, & Pascall) were for the

builders; Mr. J. Sankey, K.C., and Mr. Ernest Todd (instructed by Messrs. Church, Rendell, Bird, & Co.) representing Mr. Singer.

Mr. Sankey said it was an appeal by Mr. Singer to set aside an award of the arbitrator or remit it to him. The dispute had reference to certain repairs to Norman Court, and the main grounds of the appeal were that the arbitrator acted in excess of his jurisdiction, and that there was an error on the face of the award. The arbitration went on for an unconscionable time, and the award complained of was made on May 1 last in favour of the builders. The claimants in the arbitration—Messrs. Trollope & Colls, Ltd.—were well-known London builders, and two contracts between them and Mr. Singer were discussed. There was a contract dated February 12, 1909, under which the building operations and the arbitration proceedings took place, and by that contract the builders were to carry out certain alterations to Mr. Singer's mansion for £7,789. Subsequently there was another contract, of which time was the essence, and eventually a dispute arose, which went to arbitration.

Their Lordships heard what Mr. Hudson had to say for the builders, and adjourned the hearing, pending the decision of a special case to be stated before another judge.

The Special Case.

This was heard by Mr. Justice Channell in the King's Bench Division on Monday, December 1, the builders asking his Lordship to give judgment in accordance with the arbitrator's award.

Mr. Hudson then related the circumstances of the dispute, and said the second contract had reference to the rebuilding of the kitchen. The contracts were what were known as "summer" contracts, and were to be concluded in August. There was no complaint whatever to be made as to how the work was executed; in fact, the other side had been good enough to say that everything was quite satisfactory. The prices of the two contracts came to £9,251. The sum paid to the builders was, in fact, £9,412, but if a charge of £375 (the cost of measuring up the work) was taken into consideration there was still something due.

The course of events was this:—The builders proceeded with the work with perfect regularity right through the period of both contracts, except in regard to some question of timber, with reference to which there was some delay; but the arbitrator found that the builders picked up that delay in the subsequent month. The arbitrator decided that the builders were entitled to £1,380 16s. They had claimed on the ground that Mr. Singer occasioned such delay by his frequent alterations, etc., in the details of the work, and these "summer" contracts were not finished until the winter months; hence the claim for increased cost, which amounted to £1,400 odd. Out of this Mr. Singer counterclaimed liquidated damages on the "time" clause in the contract.

Mr. Sankey contested the case, arguing that the architect extended the time for the contract, and acted within his power in so doing.

Mr. Justice Channel, however, decided the matter in favour of the builders, and entered judgment for them with costs.

KING'S BENCH DIVISIONAL COURT.

(Before Mr. Justice BRAY and Mr. Justice LUSH.)

Manchester Builder and Corporation.

THEIR Lordships had before them an *ex parte* motion by Mr. Rayner Goddard, on behalf of Mr. T. H. Halsall, builder, of Cheetham, Manchester, for a *rule nisi* for mandamus, directing the Lord Mayor and Corporation of Manchester to consider and determine certain plans.

Mr. Goddard mentioned that the plans were submitted to the Corporation on August 13 with reference to the laying-out of three new streets in the city. Earlier in the year the builder submitted plans, which were approved, and, subsequently, when it was found to be financially impracticable to excavate at the gradient shown, other plans, showing the streets to be culs-de-sac, were submitted. It was these that the Corporation rejected, on the ground that they were not satisfactory under By-law III., which stated:—

> "Every person who shall lay-out a new street shall lay-out such street free from any erection thereon and at such level as will afford the easiest practical gradient throughout its entire length, for the purpose of securing easy and convenient means of communication with any other street or intended street with which such new street may be connected or may be intended to be connected, and as will allow of compliance with the provisions of any public or any local statute or by-law in force within the city for the regulation of new streets and buildings."

Counsel said the Corporation's view was that the applicant must have regard to a street or streets which might at some time be laid out or intended to be laid out at the end of the cula-de-sac, but that could not apply in this case because there could be no other streets with which these culs-de-sac could be connected.

The Court granted the rule asked for.

An Architect's Fees.

AT the Westminster County Court recently Mr. Delmé G. Mootham, architect, of 14, Jermyn-street, W., sued Mr. Howard Douglas Burn, solicitor, carrying on business as H. D. Burn & Co., of Carlton House, Regent-street, Waterloo-place, S.W., for £15 15s. for fees.

Plaintiff said in April 4 of last year Mr. F. G. Flewitt, managing clerk to defendants, telephoned to him and asked him to give evidence in a case at the Law Courts. He decided to do so, and also made some models of a lift, had consultations with defendant, and visited the scene of the accident. Witness said he asked Mr. Flewitt by whom he was engaged, and Mr. Flewitt said by Messrs. Burn & Co., who would also pay his fees. The jury did not agree on the case. He subsequently sent in his account, but as he received no acknowledgment to that and other accounts he consulted his solicitors, and as a result he was informed that the arrangement was "no cure no pay." Up till then there was no suggestion of no pay no cure.

Cross-examined: Witness denied that his charges were excessive.

Mr. Lawton, counsel for defendant, submitted there had been no agreement between the parties. There was only an arrangement that plaintiff should be paid for his services if Messrs. Burn won their case. The whole arrangement was made between plaintiff and Mr. Flewitt.

Mr. Flewitt, giving evidence, said the arrangement he had with plaintiff was "no cure no pay," and although plaintiff did his work admirably, there was no question of payment.

Judge Woodfall found plaintiff had not made out his case, but decided on plaintiff's paying the costs of the adjournment to give him a trial by jury.

THE MEASUREMENT OF STRESSES IN MATERIALS AND STRUCTURES.

ON Monday last, at the Royal Society of Arts, Adelphi, Dr. E. G. Coker, M.A., delivered the third and concluding Cantor Lecture on the measurement of stresses.

Dealing on this occasion with optical measurements, the lecturer said that, in considering mechanical and electrical measurements, they had seen how important it was to measure the stress at a point, and they had seen some of the advantages and some of the difficulties met with when strains or thermal effects of stress were used for the purpose. If, however, a body was elastic, they might make use of any of the properties it possessed, which would allow them to infer the stress distribution, and in this respect it was of importance to note that many transparent bodies, when loaded, acquired the temporary property of doubly refracting light passing through them. That property, which was discovered by Brewster, was of great interest and importance, as it furnished, although somewhat indirectly, a measure of the stress at a point. Double refraction was not usually observed in transparent bodies under stress, owing to the ordinary conditions not being favourable for observation; but if the light passing through a stressed object was such that its transverse vibrations were of particular types, the effects of stress might be readily made visible to the eye. A beam of light, in which all the transverse vibrations were executed in one plane, offered a ready means of detecting double refraction, and a simple means of obtaining light of this kind was to cause a beam of ordinary light to impinge upon a black glass surface at a particular angle. The reflected beam was then found to be of the type required —or plane polarised, as it was usually termed. If such a beam was transmitted through a stressed transparent plate, it was broken up into two distinct beams, executing vibrations in planes at right angles to each other and to the line of direction of the pencil. That selective effect was, moreover, accompanied by a retardation of the velocity of propagation of both waves during their passage through the stressed medium, but of different degrees, so that when they emerged there was a phase difference of vibration, which persisted in their subsequent passage through the air. Waves of light of that kind did not interfere with each other so long as the vibrations were in perpendicular planes, but if the vibrations took place in the same plane an interference effect was produced, which might be very imperfectly likened to that produced by two systems of waves travelling in the same direction with different velocities. Experiments showed that the two component waves which left a stress applied to transparent material vibrated in the directions of maximum and minimum stress, and if the polarising and analysing devices were always arranged with their principal planes at right angles, they had an arrangement which showed a dark point on the stressed body wherever the directions of principal stress corresponded to those particular planes. If they took the centre line at any bank, they could at once mark upon it the angular positions of the principal axes of stress, since they corresponded to the observed angular positions of the principal planes of polarising and analysing apparatus, and by extending those observations to all parts of the stressed body the directions of the axes of stress at every point could be determined with considerable accuracy.

The lecturer showed by means of a series of photographs on the screen that if they took a round of transparent material cut across to form a hook, and stressed it by means of two levers, which forced the ends apart, a black point appeared when the object was viewed between crossed Nicol's prisms or their equivalent. That point, he said, marked the places where the principal axes of stress corresponded to those of the optical apparatus, and it moved when the latter were turned through an angle. The various positions, therefore, which such points could take up afforded a ready means of determining the angular positions of the axes of stress, and in general a sufficient number could be obtained to cover the specimen completely. Another type of problem of importance related to the effects of sudden changes of action in a member under load—a case of frequent occurrence in many kinds of practical engineering construction, as, for example, in members connected together by riveted joints. An example of the simplest kind was furnished by the case of a single rivet hole under a tension or compression member, such as occurred at the intersection of the members of the lattice webs of light girders. It was easy in such a case to determine the approximate positions of the line of stress by the methods he had already described. The distribution stress in the neighbourhood of a hole in a tension member could be measured experimentally by optical means, and if the hole was of small diameter compared with the section of the bar, the stress intensity at any point might be calculated. It seemed certain that the yield point of a material was often exceeded at a rivet, and in ductile material there was probably an equalisation of stress in the neighbourhood of the hole. They could, in fact, show that that effect took place in a model made of a ductile transparent material, and it seems not unreasonable to suppose that the mild steel bolts used for riveted structures gave a similar effect. Continuing, Dr. Coker said that the effect of bending also produced a very complicated distribution of stress at a rivet hole, and he threw on the screen a photograph which showed the singular result that, owing to the effect of rivet holes, the greatest stress was at a point of the interior of the beam and not at the exterior surface. Having exhibited a series of diagrams showing the methods adopted for determining experimentally the numerical values of stress, the lecturer proceeded to refer to what he called the important problem of stress distribution in the case of the testing of the tensile proportions of cements. He said that, as was well known, rules existed in most countries which prescribed the form of a cement tension member, so that tests made of different samples of cements could be compared. Unfortunately, however, there was no general agreement, and the standard briquettes of Continental Europe, America, and England, differed very appreciably in form, and had, in fact, no common basis for the comparison of the results of tests. He showed photographs illustrating the difference of the principal stresses at a cross section of a model of a standard British cement briquette, and measurements which showed that the maximum stresses occurred at the ends of the cross section and were approximately one and three-quarter times the mean average value of the stress. Similar measurements, he said, showed that the maximum stress for the American form was about 1·70 times the mean value, while for the Continental form the ratio rose to as much as 1·95 to 1. It would no doubt, he said, be more satisfactory if the stresses could be actually determined in the cement itself, but that direct determination presented very great difficulties.

THE BUILDING TRADE.

THOUGHTS ABOUT COST KEEPING.—IV.

IN the preceding article emphasis was laid upon the value of estimating beforehand the time required for the various sections of work. If the costing up of a job is left until it is completed and the work turns out profitless, the mischief is irremediable, so far as that job goes, hence the constant effort in all costing systems to get a line on the cost of the work week by week; but even then much loss may occur before it is found out, especially in the early stages of a large work, therefore there can be no two opinions about the wisdom of anticipating the weekly cost and rate of progress necessary to bring out a satisfactory result, and bending one's energies to realise them.

A progress chart, forecasting the progress which should be made each week and recording that which has been made, worked in conjunc ion with the estimated scheme of the amount which may be spent in labour each week, compared with what is being actually spent, affords probably the best method of controlling the cost of work, but it is difficult to apply to numerous small jobs: a large, simple, straightforward job is required to show the advantages of this method. The sectionising of a job by stories, already referred to, is an approximation to the progress chart method, if worked with predetermined dates and labour cost: it also facilitates measuring up for interim payments to a definite level, and enables a comparison to be made between the total cost and the total value of the executed work on each occasion

Intermediate between the time cards and the final record comes a labour summary card, to contain the total time each week for each trade and each section of each trade for which a separate record is desired.

As the total time for each section, due to its completion, is ascertained, it is transferred to the final record. The summary cards are only necessary where it is desired to get out a comparison between cost and selling at each measuring up, or from time to time during progress, otherwise they might be dispensed with, and the time cards merely filed until each section is complete, when a final summary would serve all purposes.

Labour cost, however sectionised, should finally reflect the sections given in the quantities and units of labour. Cost should in all cases be derived from as large a number of cases as possible, because errors in the gross record which, when fractionised by dividing down to get the unit rate, are negligible, become quite serious by multiplication if the unit rate is derived from a single or small example.

It may be mentioned, in passing, that the total cost of labour for any week derived from the totals on the summary cards may serve as a check on the total amount of wages charged through the wages pay sheets, since by the independent methods of compilation the former is based on the job and the latter on the man. A check of this kind is useful to the employer.

Let us now consider the costing of materials; these present less difficulty than does labour, the quantities and qualities ordered are necessarily conditioned by the requirements set out in the bills of quantities, and they are supplied either from stock or from the merchant directly; if from stock, they still come indirectly from the merchant. Usually quotations are procured first, and the order subsequently sent is based upon the quotation, The cost is, therefore, known when the order is placed, and before the merchant's invoice comes to hand. As the various materials ordered are to find a place in the final record of cost, which, as already described, is based upon the various items of the quantities, it is evident that every order for materials should bear the number corresponding to its number in the margin of the tableau cards referred to in an earlier article. Since the merchant in making his invoice knows nothing about the job for which the materials he supplies are required, the invoice will probably need some analysing in order to distribute its respective items to the various jobs, and the easiest way to do this is for each order to bear its distinctive number, and to ask the merchant to quote the number upon his invoice opposite the item or items to which the order refers.

As the price and quantity are known when the order is placed, the cost clerk does not need to await the invoice before debiting the materials against the job; he can do this from the duplicate of the order, provided a duplicate writer is used, and merely use the invoice as a check.

The usual practice is to enter the materials into the cost book, which entails copying out the orders; but with a card system this useless labour can be saved if duplicate order cards are used instead of a duplicate writer book.

In the latter book the original of the order is torn out and sent to the merchant, and the flimsy retained, but if cards are used, the flimsy should be sent to the merchant and the card retained.

If the cards are ruled like quantities paper, the materials noted on the order card can be at once priced out, and the card filed under the job and item number it bears; if several successive orders are sent for the same goods, the various cards can readily be summarised on to the first order as they are filed, and when all the materials of any class of materials for any job have been ordered, the total cost of them can be transferred to the final tableau cost card.

Goods bought for stock should be numbered just as items of the bills of quantities are numbered, and the order cards filed in a stock card file; orders on stock can then be dealt with similarly to orders on a merchant, but withdrawals from stock should be noted on the stock cards so as to show at a glance what quantity remains

Goods are sent either carriage paid or carriage forward, and sometimes there is a further carriage to pay on returned packing cases. In the former case the carriage is included in the price charged by the merchant, therefore in the latter case it should be added to the cost of the goods; in the case of stock the carriage cost and that of any returns should be noted in the stock card relating to the goods in question, and become part of their cost for charging out purposes.

There are, besides, haulage charges, which can seldom be allocated to particular goods, *e.g.*, a load of finished joinery from the works, and the haulage of returns where the railway company does not collect. Such charges can only be dealt with by allocating them to their respective trades, and considering them as a percentage of each trade section of the job; their collection presents no serious difficulty if the carter reserves an order of a similar kind to that sent to the merchant, and cartage order cards are filed and similarly dealt with. The recording on cards of the petty cash disbursements for fares and other expenses incidental to the conduct of jobs at a distance does not call for special remark. Reference has been made to the general check on the cost keeping afforded by impersonal accounts in the ledger; one of these will record the stock at beginning of a year, the whole of the purchases during the year, as taken from the invoices, and the stock at end of year, and yield as a result the total amount expended for materials during the period; if for the same period the total materials charged against jobs, as shown by the costing system, is summarised and compared with the consumption shown by the impersonal account, it will be at once apparent whether the cost accounting is being properly carried out, the two amounts will not agree, but the cost system total should exceed somewhat the total shown by the impersonal account. This is because in charging out in detail there is a tendency to magnify measurements and weights a little. A similar comparison should be made in regard to the labour totals of the cost system and the personal wages account. Comparisons of this kind give the employer confidence in his system, and prevent him worrying or being unnecessarily suspicious of his staff.

(To be continued.)

A NEW PAINT FOR STEELWORK AND FLOORS.

PATENT paints are almost as numerous as the possible combinations of the many ingredients which go to make up this variable material; nevertheless, the problem of producing a covering which will resist the corroding influences of a polluted atmosphere or which will stand attrition does not appear to be satisfactorily met by some paints in ordinary use.

Among many others, Messrs. Toch Brothers, of New York, have approached this problem of protection by painting, and we are indebted to Messrs. Spicer Brothers, of New Bridge-street, E.C., for samples of one of the paints produced by this American firm.

It is a well-known fact that rusting of iron and steel does not take place in ordinary use when these metals are in close contact with a covering containing free alkali such as free lime, which is produced in the setting of Portland cement. If, however, Portland cement is to form a stable and resistant material, it must be allowed time to set properly, in order (if the crystalloid theory of setting be accepted) to enable the hydrated aluminate of lime and the free hydrated lime which are the product of its decomposition by water to form an interlocking mass of well-formed crystals. Messrs. Toch maintain that if ordinary Portland cement be brushed over steelwork as a wash this thin coat dries up too rapidly to enable setting to take place properly before the water has evaporated, when, of course, crystallisation is arrested; and, further, that the ordinary "accelerators" cannot be satisfactorily used to hasten the process, as they are in most cases definitely injurious to the metal. Their invention consists of the production of a very finely ground tricalcic silicate and dicalic aluminate (that is, a Portland cement), which is mixed with 50 per cent. of lime, and one of the paint resins in a volatile organic solvent, which, it is claimed, forms a true calcium resinate. After the application of this paint setting is said to take place slowly through the agency of atmospheric moisture, while the calcium resinate which acts as a binder, slowly disintegrates with the formation of free lime which acts as a preservative agent. This process occupies some months, after which a hard coating of calcic aluminate and hydrated lime remains which it is advisable to further preserve by a covering of ordinary oil paint.

This method of handling the problem of steel protection certainly has our warm approval on theoretical grounds, and, as it has been proved that a slight covering of incipient rust (not scale) is not at all detrimental to steel when bedded in concrete, we are prepared to accept the statement that the preparation of the metallic surface for the paint under discussion involves much less rigorous supervision than is required in the case of paints, which merely form a mechanical covering.

Dr. Toch has some strong comments on the use of red-lead and iron-oxide paints for application to iron and steel, holding that electrolytic deterioration must result from such use. These views must be looked upon as to some extent *ex parte* opinions; nevertheless, when deterioration has been allowed to proceed so far that moisture can intervene between the metal and any of the oxide covering, this electrolytic theory of decay is no doubt quite tenable.

It is only after tests extending over a long period that any definite first-hand opinion can be given upon such a material as paint. We have not had an opportunity of conducting such tests, but from inquiries in other directions we gather that very satisfactory results have been obtained with this cement paint under perhaps the most trying conditions—namely those in which steelwork is exposed in railway tunnels where ventilation is difficult. In such cases the sulphur dioxide gas from the engine fuel is immediately converted into sulphurous acid, and this again into sulphuric acid in the always moist atmosphere, both of which highly corrosive liquids are readily deposited on the normally cold steelwork.

The use of paints for floors is not practised largely in this country. The cement paint

applied to cement, stone, or similar floors to remove porosity and to prevent abrasion, both desirable objects from a sanitary and labour-saving aspect, and especially in machine shops and power-stations where dust and grit appreciably shorten the life of all machinery. We have had an opportunity of examining a sample of floor paint and a filler. The latter is apparently one of the ordinary paint resins in a very volatile solvent, and forms a clear mobile liquid, which is applied to porous surfaces before the paint itself. The former has the consistence of ordinary paint and has the colour of cement. We have applied these samples to porous brick—a hard cement surface and iron with incipient rust upon it. The paint dries in twenty-four hours, and hardens very considerably in a succeeding like period, while it adheres firmly to these materials. A well-known firm of photographic manufacturers has been good enough to give us their experience of the floor paint, which extends over some time. We have not been able to inspect the floors thus treated, as they are in rooms used for secret processes, but, as we imagine, they are rooms used for the preparation of emulsions for plates, where organic solvents must at times be spilt, it seems likely that the conditions of use are trying as regards resistance to chemical action, if not specially as regards abrasion. Renewals in the case of paint upon a floor are naturally required more frequently than upon walls. The life of a coat of the paint so used is said to be about one year, no second application of filler being required.

EDINBURGH AND LEITH BUILDING TRADES ASSOCIATION.

THE annual dinner of the Edinburgh, Leith, and District Building Trades Association was held in Edinburgh last week under the chairmanship of Mr. William Forrest. The Chairman, in the course of his remarks, stated that during the past year the building trade had been somewhat better than the previous year. Their Association had been making rapid progress during the year, and they now had practically all the builders in the city on the roll. Mr. J. Carrick, in proposing the toast of the Edinburgh and Leith Corporations, said that it was useless to think of urban development while Edinburgh had its present antiquated tramway system. The number of members present amounted to about one hundred.

WAGES IN THE BUILDING TRADE.

ALTRINCHAM.—At the quarterly meeting of the Northern Centre Board of Conciliation the appeal of the joiners for an advance in wages of ½d. per hour (10d. to 10½d.) and alterations to working hours and discharge rules was considered. After hearing the evidence of both sides the Board decided that the wages of the joiners be advanced ½d. per hour as and from Monday, December 1, 1913, and that the hours of labour and discharge rules be amended in accordance with the Manchester conditions.

BAILEY.—The masons in this district will be paid ½d. per hour advance (9d. to 9½d.) on and after January 1, 1914.

CARDIFF.—The hauliers in this district have given six months' notice of a demand for an increase of wages to 30s. per week and various alterations in the working rules. The employers will deal with the notice early in the new year.

DEWSBURY.—An advance of ½d. per hour (9d. to 9½d.) will be paid to the masons on and from January 1, 1914.

MANCHESTER.—An advance of ½d. per hour (10½d. to 11d.) will be paid to the plasterers on and after January 1, 1914. The plasterers' labourers also receive an increase of ½d. per hour (7½d. to 7½d.) from the same date.

MERTHYR TYDFIL.—An increase in wages of ½d. per hour (6d. to 6½d.) has been granted to the labourers as from January 1, 1914. The painters also receive an advance of ½d. per hour (7½d. to 8d.) from the same date.

OSSETT.—The wages of the masons will be advanced ½d. per hour (9d. to 9½d.) on and after January 1, 1914.

PONTYPRIDD.—The workmen in this district have sent in notices for advances in wages as follows:—Masons, plasterers, and bricklayers, from 8½d. to 9½d.; carpenters, from 8d. to 9½d.; plumbers, from 9d. to 9½d.; painters, from 7½d. to 9d.; and labourers, from 6d. to 7d.

RHONDDA.—The plasterers in this district will receive an advance of ½d. per hour (8½d. to 9d.) as from January 1, 1914.

SHEFFIELD.—The painters will receive an advance in wages of ½d. per hour (8d. to 8½d.) on and after January 1, 1914.

SHIPLEY.—On and after January 1, 1914, an advance of ½d. per hour (9½d. to 10d.) will be paid to the masons in this district.

SUNDERLAND.—An advance of ½d. per hour (9½d. to 10d.) will be paid to the carpenters and joiners on and after January 1, 1914.

TEES-SIDE.—At the quarterly meeting of the Northern Centre Board of Conciliation held in Leeds an appeal was considered from the Tees-side operative joiners, embracing the districts of Stockton, Thornaby, Middlesbrough, and the Hartlepools, for an advance in wages of ½d. per hour (9½d. to 10d.). After hearing the witnesses from both sides, the Board decided that the wages be advanced ½d. per hour (9½d. to 9½d.), as and from December 1, 1913.

PROPOSED NEW BUILDINGS AND OTHER WORKS.*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works, at the time of publication, have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; L.G.B. for Local Government Board; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

ALDERSHOT.—Plans passed:—Additions to cottage, Aldershot Stubbs, for Mr. W. North; bungalow, Church-lane East, for Mr. E. P. Clinton; extension at rear of offices, Victoria-road, for the Aldershot Gas, Water, and District Lighting Company; taking down and re-erecting cart sheds, St. George's-road, for Mr. H. Charter; dairy and stabling, 74, Grosvenor-road, for Mr. Elsley; conversion of dwelling to shop, Grosvenor-road, for Mr. Anthony.

Basingstoke.—Plans passed by T.C.:—House in Cliddesden-road for Mr. W. Angell; new stock shed for Messrs. Thornycroft & Co. Ltd.; houses on the Winklebury Estate for Mr. Gaye and for Miss Wood; alterations and additions to factory in New-street for Messrs. John Mares, Ltd.; bungalow on Kempshott Village Estate for Mr. W. Hedderly; and bungalows on the same estate for Messrs. Homesteads, Ltd.

Bedwas.—The L.G.B. have held an inquiry into the application of the U.D.C. to borrow £3,132 for the erection of Council offices, fire-station, etc.

Bexhill.—The T.C. have passed plans for two houses in Collingham-rise (Mr. P. D. Stonham, architect) for Messrs. Bodle & Atkinson; and one in Wickham-avenue (Mr. J. B. Wall, architect) for Mr. T. Murrell.

Birmingham.—The L.G.B. have held an inquiry into an application by the T.C. for approval of the appropriation of a piece of land at the junction of Corporation-street and Potter-street as a site for new weights and measures offices, and for sanction to the borrowing of £3,563 for the erection of the building.

Bispham.—A scheme is on foot for the extension of Bispham by the erection of about 100 bungalows, in the form of a small garden suburb, on land near the cliffs to the north of Norbreck Hydro. Mr. F. W. Lyons, architect, of Liverpool, has prepared the plans for this new bungalow city, which it is proposed to lay out on the east side of the Blackpool and Fleetwood tram-road.

Boston.—Plans passed by T.C.:—House in Granville-street for Mr. H. Kirton; four houses in Robin Hood's-walk for Mr. F. Peck.

Bristol.—Messrs. Oatley & Lawrence, the architects, are engaged in preparing plans for the Y.M.C.A. building on the site in Colston-street.

Bromley.—Plans passed by T.C.:—Extension of house, Bickley-crescent, for Mr. F. G. Crickett; alterations and additions, Fernside, Oldfield-road, for Mr. C. H. B. Quennell.

Burton-on-Trent.—The T.C. have decided on an extension of the gasworks retort-house involving an expenditure of over £20,000.

Byfleet.—The Chertsey R.D.C. having applied to the L.G.B. for sanction to borrow sums amounting to £1,665 for works of private streets improvement in Binfield-road, King's Head-road, and York-road, Byfleet, and Aviary-road, Pyrford, an inquiry has been held.

Calne.—Plans passed for two cottages for Mr. Maltick.

Cannock.—Plans passed by U.D.C.:—Alterations to house, Littleworth-road, Littleworth, for Miss Harvey; motor-house, Hatherton-lane, for Dr. Clendinnen; house, Ebenezer-street, Hednesford, for Mr. T. C. Longstaff; two houses, Ebenezer-street, Hednesford, for Mr. T. C. Longstaff; two houses, Green Heath-road, Hednesford, for Mr. T. C. Longstaff; house, Pye Green-road, for Mr. T. C. Longstaff; house, Pye Green-road, Hednesford, for Miss Ives; and four houses, Heath Gap-road, Cannock, for Mr. A. Darrall.

Cardiff.—The L.G.B. have held an inquiry relative to the application of the Corporation for power to borrow £5,676 for the purpose of erecting thirty workmen's dwellings in Kitchener-road.

Carlisle.—The T.C. have decided to build a ladies' swimming-bath, at a cost of £2,000.

Carnarvon.—The T.C. have passed the following plans:—Alterations to yard and buildings at No. 4a, Pool-street, for Messrs. Evan Jones & Son; alterations at rear of Hafod, St. David's-road, for Mr. E. H. Parry; and reinstatement of the Segontium Steam Laundry for Mr. H. Haighton.

Chatham.—Plans passed by T.C.:—Confectionery stores, No. 54, Albany-road, for Mr. T. Schollar; bungalow, Hook and Hatchet-road, for Mrs. Russell; twenty-one houses, Kingswood-avenue, for Mr. H. P. Hughes; additions to Barnard's Music-hall, High-street, for Mr. L. B. Barnard; addition to Coachmakers' Arms, High-street, for Messrs. Style & Winch, Ltd.

Chester.—An application by the Corporation to borrow £21,000 for a housing scheme was the subject of a L.G.B. inquiry.

City of London.—In memory of Canon Benham, who was for twenty-eight years rector of St. Edmund the King and Martyr, Lombard-street, a fund is being raised for the redecoration of the sanctuary and for restoring and dignifying the east end of the church, according to the original scheme of Sir Christopher Wren.

Clacton.—Plans for the erection of a bathing pavilion in the east cliff to accommodate eighty bathers at one time is being considered by the Improvement Committee.

Crompton.—Plans passed:—Cowshed at Holt's Farm for the executors of Mr. Joshua Milne; motor garage in Park-street for the Co-operative Society; alterations and additions to the Shore Edge Primitive Methodist Chapel.

Culmstock.—The Devon C.C. propose rebuilding Culmstock Bridge, at an estimated cost of £2,300.

Darlaston.—The L.G.B. have held an inquiry into an application by the R.D.C. for sanction to borrow £15,000 for sewerage and sewage disposal. The engineers of the scheme are Messrs. Dodd & Dodd, of Birmingham.

Daventry.—The R.D.C. are seeking sites in the parishes of Braunston and West Haddon for the erection of working-class dwellings.

Derby.—The Derby Crown Glass Company, Ltd., have purchased 5 acres of land from the Corporation for the erection of works.

Dover.—Plans are before the T.C. for sixteen cottages off Mangers-lane for Mr. S. J. Knott.

Eccleston.—Messrs. Greenall, Whitley, & Co. propose rebuilding the Seven Stars Inn.

Edinburgh.—The Heriot Watt College Trustees propose converting the Castle Brewery into mining laboratories, etc. Warrants granted by the Dean of Guild Court:—Royal Infirmary of Edinburgh, alterations to west medical theatre, Lauriston; School Board, alterations, Gorgie Annexe School, Gorgie-road; Scottish Metropolitan Property Company, Ltd., workroom behind 30, Melville-street; Edinburgh School of Cookery, deviation, 1 and 2, Atholl-crescent; and St. Cuthbert's Co-operative Association, Ltd., deviation, Upper Grove-place. A scheme for the formation of a winter garden or conservatory in West Princes-street-gardens is to be recommended for adoption to the T.C. The plans show a building capable of seating 1,200 persons, and there would be promenades to shelter other 200 or 300 people. The building would be of such a character as to give an impression of dignity and restraint and avoid any element that would detract from the natural beauty of the gardens or their surroundings. The cost, it is estimated, would be about £10,000 exclusive of the laying-out of the grounds, treatment of terraces, etc.

Ely.—The L.G.B. have held an inquiry into the application of the U.D.C. for sanction to borrow £3,000 for the erection of workmen's dwellings.

Eton.—Plans passed by R.D.C.:—House in Layter's Way, Gerrards Cross, for Messrs. Baldwin & Duck; new coal store at Burnham Waterworks; alterations to Datchet Golf Club House; new entrance lodge to Stoke Barn Estate for Mrs. L. G. Angas; villa in Poyle-road, Burnham, for Mrs. Friedricks; alterations to stable and coachhouse at Mahableshwar, Burnham, for Mr. J. Cleare; and alterations and additions to Littlecroft, Datchet, for Mr. S. Teacher.

Evesham.—The R.D.C. has decided to purchase 6¾ acres of land at Littleton, and erect twenty-four cottages, and also to obtain land at Bretforton, if available, for the erection of cottages.

Exeter.—The T.C. are acquiring land in Ladysmith-road for the erection of twelve cottages.

Farnborough.—The T.C. have decided to erect thirty artisans' cottages to meet the housing accommodation difficulty due to the demands of the Army Aircraft Factory.

Fleet.—The L.G.B. have held an inquiry into the application of the U.D.C. for sanction to borrow the sum of £36,400 for works of sewerage and sewage disposal. Mr. T. J. Moss-Flower is the engineer for the scheme.

Fylde.—Plans passed by R.D.C.:—Mr. F. T. Broxup, stable and piggeries at Marton; Mr. J. Rigby, stable and coachhouse at Beech House, Freckleton; Mr. C. H. Parker, villa at Bryning-lane, Wrea Green; Mr. C. Rossall, cottage, Common Edge-lane, Marton; Mr. A. Hargreaves, Church Institute at Marton Moss.

Gillingham.—Plans passed by T.C.:—Court Lodge, Sharp's Green, for the Trustees of the Gillingham United Charities, submitted by Mr. Peschell; dwelling-house, Twydall, for Mr. Fry, submitted by Mr. G. J. Jeffrey; cottage, Bredhurst-road, Wigmore, for Mr. A. E. Watson, submitted by Mr. F. T. Mattocks; dwelling-house, Bredhurst-road, Wigmore, for Mr. Wm. Rowe; additions to Mineral Water Factory, Napier-road, for Messrs. R. White & Sons, Ltd.; bungalow at Hempstead for Mr. J. F. Lees.

Glasgow.—Warrants granted by the Dean of Guild Court:—North British Locomotive Company, Ltd., a flanging shop and material store in Blenheim-street; the North British Diesel Engine Works, pattern shop and store at Whitevinch, Messrs. Frederick Braby & Co., Ltd., buildings for new rolling mill plant in Petershill-road; Messrs. G. & J. Weir, Holm Foundry, Cathcart, foundry at Cathcart; Scottish Picture Houses, Ltd., 113, St. Vincent-street, to erect a picture-house on the north side of Gourlay-street, Springburn.

Golborne.—Alterations to the Sign in the Cellar beerhouse for Mr. H. Smith.

Harpenden.—Plans passed by U.D.C.:—Two houses in Kingcroft-road for Mr. F. Piggott; motor-house in Milton-road for Mr. A. Blake; addition to Kenmore, Tennyson-road, for Mr.

* See also our list of Competitions, Contracts, etc., on page 688.

RATES OF WAGES IN THE BUILDING TRADE.

THE following are the present rates of wages in the Building Trade in the principal towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur:—

——	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Labourers.	Bricklayers' Labourers.	Plasterers' Labourers.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Newcastle	10	10	10	10	9½	10	9	6½	6½	6½
Sunderland	9½	10	9½	9½	9½	9	9	6½	6½	6½
Darlington	9	9½	9	9½	9½	9	7½	6½	6½	6½
Stockton-on-Tees	9	10	9½	10	9½	9	8½	7	7	7½
Bradford	9½	9½	9	9	9½	9	8½	6½	6½	6½
Halifax	9½	9	8½	8½	8½	9	8½	6½	6½	6½
Hull	9½	9½	9½	9½	9½	9½	8½	7	7	7
Leeds	10	10	9½	9½	9	9½	8	7	7	7
Sheffield	10	9½	9½	9½	9½	9½	8	6½	6½	6½
York	9	9½	8½	9½	9½	8½	7½	6½	6½	6½
London	11½	11½	11½	11½	—	1s.	9	7½	7½	7½
Brighton	8–9	8	8	—	—	—	—	—	—	—
Portsmouth	9	9	9	9	—	8	7½	6½	6½	6½
Southampton	8½	9½	9½	8	—	9½	8½	6½	6½	6½
Maidstone	9	9	9	—	—	9	7½	5½	5½	5½
Bristol	9½	9½	9½	9½	—	9½	9	6½	6½	6½
Plymouth	9	9	9	9	—	9	7½	6	6	6
Bath	7½	7½	8	8	7½	7½	7	5–5½	5–5½	5–5½
Cheltenham	8½	8½	8½	8½	—	8½	7½	5½	5½	5½
Exeter	8	8	7½	7½	7½	7½	6½	5	5	5
Gloucester	7½	8½	8½	7½	7½	8½	7½	5½	5½	5½
Hereford	7½	8	7½	8	7½	7	6½	5	5	5
Stroud	7	7	7	7	7	7	6½	4½	4½	5½
Blackburn	10	10	9½	9	9½	9½	8½	6½	7	7
Bolton	10	10½	10	10½	9	9½	9	—	—	—
Liverpool	11	11	11	10	10	10	9½	6½	6½	6½
Manchester	10	10½	10½	10½	9	10	9½	6½	6½	7½
Oldham	10	10½	10	9½	9	10	9½	6	7	7½
Preston	9½	10	9½	9	8½	9	8½	5½	6	6
Birmingham	10	10	10	10½	9	10½	9	7	7	7
Derby	9½	9½	9	9	9	9	8	6	6	6½
Leicester	9½	9½	9½	10½	9	9½	8	7	7	7½
Nottingham	10	9½	9½	10	9	9½	9	6½	7	7½
Norwich	8	8	8	8	8	8	6½	5	5	5
Cambridge	9	8½	8½	9	8	9	7	5½	5½	5½
Oxford	9	8	8½	8½	8	8½	7	6	8	6
Southend	9	9	9	9	Piece work	9	7	6	6	6
St. Albans	9	9	9	10	8½	9	8	6	6	6
Grays	—	10	10	—	9	—	8½	6	7	7
Cardiff	9½	9½	9½	9½	9½	9½	8½	6½	6½	6½
Swansea	9	9	9	9	8½	9	8½	6	6	6
Newport	9	9	9	9	8½	8½	8½	6	6	6
Chatham	8	9	8½	9	9	8½	7	5½	5½	5½
Birkenhead	11	11	11	10½	10	9½	9½	6½	6½	6½

The mason's rate given is for bankers; fixers usually ½d. per hour extra.

Lonsdale Warren; power-house in Amenbury-lane, in connection with the cinema, for Mr. M. Thorpe.

Harrrogate.—Plans approved:—The Yorkshire Home for Incurables, cottage and boiler-house in Cornwall-road; Mr. R. Peach, cottage, situate off South Park-road.

Hastings.—The T.C. have sanctioned the expenditure of £7,150 for the laying-out of the Brisco Estate in connection with the big town improvement scheme. There will be twelve bowling greens, tennis courts, promenade lawns, shelters, a pavilion, and also lifts from the sea front. The whole scheme will cost £40,000. It has been decided to seek a loan of £4,890 for hard-wood blocks.

Hawkmoor.—Draft plans have accordingly been submitted to the L.G.B. by the Devon C.C. for the erection of new buildings in four blocks at the sanatorium, viz., one for forty males, one for forty females, one containing dining-hall, recreation-room, kitchen, and laundry, one separate ward for twenty children. The cost is estimated at £18,000.

Henley-on-Thames.—The B.G. have decided, subject to the plans being approved by the L.G.B., to invite tenders for the rebuilding of isolation cottage, which some months ago was destroyed by fire.

Hertford.—Plans passed by R.D.C.:—Alterations and additions to the Old Rectory, Little Berkhamstead; house in Ware-road, Hertford, for Mr. H. Brazier; alterations and additions to Moat House, Hertingfordbury, for Messrs. Avis & Booker.

Highworth.—The Swindon R.D.C. have passed plans for six bungalows submitted by Miss Jebb.

Hinckley.—The Vicar of Holy Trinity Parish Church has received a letter from the Board of Education, sanctioning the erection of a Church of England school in the town. The proposal is to provide a school for about 250 children.

Irvine.—There is a scarcity of dwelling-houses, brought about by the transference of Messrs. Mackie & Thomson's yard from Govan to the town. All the houses are let; there is not an empty dwelling to be had, there is the prospect of 1,666 men being started at the yard after the New Year, and no new dwelling-houses are as yet being erected to cope with the demand. At a private meeting of the T.C. a proposal to erect houses under a municipal scheme was deferred in favour of giving all prospective builders every facility for erecting houses.

Jarrow.—The South Shields Gas Company have decided upon a scheme for the erection of new gasworks at Jarrow.

Kilsyth.—The T.C. have decided to erect single-story cottages of two and three apartments, with scullery etc., at an estimated cost of £160 for the smaller house and £210 for the larger house, on condition that a sufficient number of applicants apply for such houses as would warrant them going on with the scheme.

Lewisham.—The B.C. have approved of the following plans:—Messrs. Smith & Son, Manor Oak-road, six houses on the south side; Messrs. W. J. Scudamore & Sons, Newstead-road, six houses on the north side (Nos. 62-72); Mr. J. Hughes, Braidwood-road, nine houses on the south side; Mr. F. W. Loasby, Sandhurst-road, an organ blower-chamber at St. Andrew's Church; Messrs. Thomson & Beveridge, Brockley-rise, a parish hall on the west side; Messrs. B. Horton & Son, Mill-road, a sawmill.

Lincoln.—Plans prepared by Mr Watkins for the new infirmary have been before the B.G. The plans provide for 162 beds, and the approximate cost is:—Main block, £18,800; nurses' home, etc., £2,650; porter's lodge, etc., £500; mortuary, £350; walls, roads, drains, etc., £1,800; total, £24,100. Consideration is deferred.

London County Council.—The Building Act Committee have consented to the following applications under the London Building Act:—Refacing of ground story of 43, Upper Grosvenor-street, on the application of Mr. G. A. Codd, for Mrs. Clark; for bay windows, etc., in front of sixteen houses on north-western side of Long-stone-road, Wandsworth, on the application of Messrs. Kirby & Horsman, for Mr. F. Cornick; for an extension of period for the erection of buildings to abut upon Upper Tooting-road, Beechcroft-road, etc., Wandsworth, for Mr. H. Watts; to the erection of tile hoods over the gateway entrances to six houses in Magdalen-road, Wandsworth, on the application of Messrs. Withers & Meredith, for Mr. J. Carmichael; to the erection of porches to houses in Smithies-road, Plumstead, for the Royal Arsenal Co-operative Society; erection of addition at rear of 74 and 76, Kingsland High-street, Hackney, on the application of Mr. C. T. Lee, on behalf of the London County and Westminster Bank, Ltd.; the erection of buildings on the site of Nos. 3, 5, 6, 7, 8, 9, and 10, Dorrington-street, Holborn, on the application of Mr. A. C. Thompson, for the Prudential Assurance Company, Ltd.; additions to premises of Messrs. S. Jones & Co., Diamond-street, Camberwell, on the application of Messrs. H. King & Son; additions to St. Anne's Roman Catholic School, Bethnal Green, on the application of Mr. P. E. Culverhouse; four gangways over eastern end of Pickle Herring-street, Rotherhithe, on the application of Messrs. Stock, Pape, and Stock; to the laying out of a new street for carriage traffic to lead from Kilburn High-road to Messina-avenue, Hampstead, on the application of Messrs. Oswold Stoll and Geo. Reeder; laying-out of new street in connection with the erection of a block of buildings and porter's lodge on a site to be approached from West-hill, Highgate, for Mr. J. A. J. Keynes; erection of additional story at 42a, Great Cumberland-place, St. Marylebone, on the application of Mr. J. R. Ball for Mr. Gustav Agnet; additions (cubical extent in respect of alterations at the London General Omnibus Company's garage, Wellington-road, Battersea; addition at the electricity generating station of the Southwark B.C. at Penrose-street, Walworth; conversion of 30 and 31, Horton-street, Deptford, into dwelling-houses, on the application of Messrs. J. Shorter & Co.; addition to 66, Vincent-square, Westminster, on the application of Messrs. Elms & Jupp, on behalf of Lord Montagu of Beaulieu. The Education Committee propose a new elementary school in Islington to accommodate 1,400 children, and to provide another new school for 1,200 children to replace the Caledonian-road school. In St. George's-in-the-East the Committee need accommodation for 800 children.

Lytham.—Plans passed by U.D.C.:—Motor-house at Cambridge-road for Mr. J. A. Walker; motor-house in Park-avenue for Mr. T. H. Nelson; detached house at the Inner-promenade for Mr J. J. Carter; two houses in Mythop-avenue for Mr. J. W. Haworth.

Mansfield Woodhouse.—Plans passed for dwelling-house, stable, and premises for Mr. Arthur Wilson, in Morven-avenue.

Marylebone.—The Works Committee of the B.C. are recommending that sixteen further refuges be placed in various positions in the streets of the borough, at a cost of £420.

Menden.—Plans passed by R.D.C.:—Bungalow at Marston Green, Coleshill, for Mr. W. H. Bulpitt, of Marston Green; cottages, Lug Trout-lane, Hampton-in-Arden, for Mr. R. E. Coucksman, 75, New-street, Birmingham; alterations and additions to five cottages at Brownshill Green, Coundon, for Mr. T. Minstrell, Cheddingshire, Kent; alterations and additions at Oaklands Farm, Allesley, for Mr. V. R. S. Vickers, Allesley; golf club pavilion for the Hampton-in-Arden Golf Club, deposited by Hurst & Beamish, contractors, Hampton.

Middlesbrough.—Messrs. Gray & Sons, shipbuilders, of West Hartlepool, have acquired from the Tees Conservancy Commission 83 acres of land at Seaton-on-Tees, with a river frontage of 1,500 ft., for the erection of dry docks and a shipbuilding and ship-repairing yard.

Midhurst.—The Surveyor of the R.D.C. has been directed to proceed at once with the scheme for building cottages, first building eight at Midhurst and then four at Easebourne.

Morpeth.—The B.G. have received sanction from the L.G.B. to borrow £1,000 for the purchase of the Grange House site for a new infirmary.

Narberth.—The R.D.C. has purchased land at Saundersfoot on which to erect cottages.

Nelson.—Plans approved by the T.C.:—Mr. George Carter, stables, Back Southfield-street; Executors of J. Heap, alterations, 113, Leeds-road; Mr. J. Whitaker, conversion into warehouses, 2 and 4, Bowling-row; Mr. J. Blakey, alterations, 9, Scotland-road; alterations at Nos. 16, 16a, and 18, Manchester-road, for Messrs. Boots, Ltd.; seventeen houses in Kingsley-street and seventeen in Pinder-street, for Messrs. Ormerod Bros. Plans for seventeen houses and two shops for Messrs. J. Crowther & Co., and of twenty houses in Garden-street for Messrs. T. Dent & Sons have been disapproved.

Newcastle-on-Tyne.—The Estate Committee are recommending the T.C. to purchase property in Churchill-street and erect cottage baths, at a cost not exceeding £1,000.

Nuneaton.—Councillor E. F. Melly, a former mayor of the borough, has offered to build an art gallery and museum if the Council would purchase a suitable site, which the Council have decided to do. Plans passed by T.C.:—Addition to house, Midland-road, for the Midland Railway Company; six houses and shop, Dugdale-street, for Mr. G. Cooper; water-closet, Lamb and Flag Hotel, Church-road, for Messrs. Jas. Eadie, Ltd.; covered gateway to works, Freer-street, for Messrs. Ollard, Westcomb, & Co.; eight houses, Bracebridge-street, for Mr. Woodhead; four houses, Bracebridge-street, for Mr. W. E. Mayo; addition to premises, Bull Hotel, Market-place, for Messrs. Flower & Sons, Ltd.

Orsett.—At a sitting of the Orsett Joint Hospital Board the Architect, Mr. C. M. Shiner, brought up the amended plan for the new diphtheria and scarlet fever pavilion to meet the wishes of the L.G.B. The estimate was the same as for the original plan, viz., £3,164. The plan was approved, and a L.G.B. inquiry has been held into the application of the R.D.C. to borrow £8,673 for a sewerage scheme, for which Messrs. H. & F. Walker are the engineers.

Oystermouth.—The U.D.C. have decided to proceed with the erection of a new reservoir capable of holding 600,000 gallons, and also to lay a rising main from Caswell to the reservoir, and to make filter beds. Plans passed for the erection of dwelling-houses in West Cross-lane for Mr. T. Taylor; in Driffield-road for Mr. Jno. Evans; and Caswell-road for Mr. Watkin Lewis, Penarth.

Plymouth.—The T.C. have appointed a committee to draw up a scheme for municipal baths.

Portsmouth.—The cost of the scheme of extension which is being recommended for the infectious diseases hospital at Milton is £28,000, to include an addition of eighty-four beds, a new nurses' block, and other improvements.

Prudhoe.—The U.D.C. have passed plans for alterations and additions to the Unionist Club, submitted by Messrs. Dixon; and the block plan for drill-hall and drains and road, submitted by Messrs. Beadle & Wood, of Newcastle, on behalf of Mr. John Liddell.

Reading.—Plans passed by T.C.:—Pair of dwelling-houses in Melrose-avenue for Messrs. H. J. & C. Prouten; house in Elsley-road, Tilehurst, for Mr. H. Childs; additions to garages in Station-road for Messrs. Vincent; additional stores in Queen's-road for Messrs. Geo. Fowler, Lee, & Co., Ltd.

Redruth.—Plans passed for house at West Treworgie for Mr. J. T. Odgers.

Reigate.—Plans passed by R.D.C.:—Addition to house, Norwood-hill, Charlwood, for Dr. Wake; Gild; addition to house, Manor-road, Horley, for Mr. A. E. Jennings; workshop and washhouse, Parkhurst-road, Horley, for Mr. Neil, Horley; porter-house, Church-hill, Merstham, for Mr. N. J. Rolls, Merstham; house, Miles-lane, Outwood, for Mr. A. E. Fisher; chapel and bell-room, Walton Heath, for Lady Russell of Killowen; and addition to house, Kingswood.

Manor, for Mr. J. W. Ferris, Kingswood Manor, Kingswood.

Rhymney.—Plans have been passed for fifty houses in Charles-street, Abertyssws, for the Tredegar Iron Company.

Riccall.—The R.D.C. have instructed their Engineer to prepare plans for the conveyance of a supply of water from the Selby mains to Barlby, on the East Riding bank of the river.

Richmond, Yorkshire.—Plans are before the Council for the construction of a light railway between Forcett and Hutton Magna. It would start from a junction with the Forcett Light Railway and finish at Hutton Magna.

Romford.—Plans passed by R.D.C.:—For cemetery lodge and offices on the east side of Eastbrookend-road, Dagenham, for the Ilford Park Cemetery Company, Ltd.; for cemetery chapel on the east side of Eastbrookend-road, Dagenham, for the same company; and for two houses on the west side of Beacontree Heath for Mr. J. A. Parrish.

Rushden.—The tenders received for the erection of thirty-two workmen's cottages are considered too high by the U.D.C., and they have appointed a sub-committee to go through the specification with the Surveyor to see where a saving could be effected.

Rye.—Plans passed:—Alteration to Hiham House, Winchelsea, for Mr. McGowan; and new cottages at Peasmarsh for Mr. Scott.

Scarborough.—An agreement has been arrived at between the North-Eastern Railway Company and the Streets and Buildings Committee of the Corporation for the erection of a bridge over the Mere level crossing on the outskirts of the town.

Sheerness.—At a meeting of the U.D.C. it was stated that a new estate is to be laid out for some 300 houses, and a block plan of the area is to be submitted to the Council.

Sheffield.—The Health Committee are asking the Finance Committee to authorise them to spend £10,000 on privy conversion in the current financial year. The L.G.B. have sanctioned the loan of £2,944 for alterations and additions to Attercliffe Baths. Fifty washing stalls are to be erected at the Upperthorpe Public Washhouse. The Health Committee have asked the City Architect to prepare plans for a central laundry, to be erected on land adjoining Penistone-road destructor.

Silloth.—Mr. G. Armstrong has submitted to the local authority, on behalf of Carr's Flour Mills, plans for the erection of forty-eight houses at West Silloth.

Slough.—Plans passed by U.D.C.—House in Langley New Town for Mr. G. Adams; additions to a house in Upton-road for Mr. W. Brown; house in Ledgers-road for Mr. C. J. Jackaman; additions in Herschel-street for the Trustees of the Wesleyan Chapel.

Stafford.—The T.C. have decided to put down an experimental plant for dealing with the sewage bacteriologically. The Surveyor has been instructed to prepare a scheme for the erection of forty working-class dwellings to rehouse the occupants of insanitary premises. Plans passed for the erection of a coliseum in Gaolgate-street for Mr. A. Goldstein, Lichfield-street, Hanley; and for the extension of the works of Messrs. W. H. Dorman & Co.

Stockton.—Plans passed for stable and coach-house at Whinney Hill for Mr. Hamer.

Sunderland.—Plans passed for picture theatre in Roker-avenue, submitted by Mr. G. R. Smith, of South Shields.

Swadlincote.—Plans passed by U.D.C.:—Shed at Donnington Works for the Moira Colliery Company; engine-room, Church Gresley, for Mansfield Bros.; shed off Midway-road for Mr. R. H. Warren.

Swanage.—Mr. L. D. P. Way has deposited plans for five shops in the Station-road for Mr. J. Parsons.

Swansea.—The Hospital Board of Management propose adding three wards to the present building.

Tutbury.—Plans passed by R.D.C.:—Dwelling-house in Stretton-lane; converted lodge-room, with caretakers' quarters, for Tutbury Oddfellows; new shed for five cows at the Croft Farm, Hanbury, for Mr. Henry Newton.

Ulverston.—Plans passed by R.D.C.:—Additions to Cartmel Fell School, and for the erection of four cottages at Kirkby for Mr. Thomas Butler.

Warminster. Plans passed by U.D.C.:—From Mr. T. Holdoway for the erection of six semi-detached houses at Westbury Leigh; and from Mr. W. W. Snailum for proposed extensions at the George Hotel.

West Hartlepool.—Plans passed by T.C.:—Mr. G. Moorhouse addition to premises, No. 88, Lynn-street; Messrs. Tyson, Hodgson, & Co., alteration of dwelling-house, Scarborough-street; Mr. R. Clennett, detached villa, Elm-grove; West End Cinema Company, picture hall, Collingwood-road. A plan, submitted by the estate agent of Lord Furness, for the laying-out of the Tunstall Court Estate, has been referred to a committee.

Willington.—Plans passed by U.D.C.:—Block plan for proposed building sites at Willington for Lord Boyne; six houses at Willington by Mr. Thos. Dunn; alterations to property at Willington by Mr. Thomas Dunn.

Winchcombe.—The L.G.B. have held an inquiry into the application of the R.D.C. to borrow £17,100 for the purposes of water supply in six parishes, or parts of parishes.

Windsor.—The T.C. have decided to extend the baths, at an estimated cost of £3,562.

TRADE DINNER.

The directors and staff of Messrs. Bovis, Ltd., held their annual dinner at the Pillar Hall, Victoria Station, on Saturday, the 13th inst. Nearly 200 of the staff and friends were present, and many references were made to the great progress the company had made. An excellent concert programme rounded off an enjoyable evening.

GENERAL BUILDING NEWS.

NEW SCHOOL AT BETTWS.

Mr. D. Pugh-Jones, F.S.I., is the architect for this new school, which has been erected at a cost of about £3,000. Accommodation is provided for 160 children, and the contract was carried out by Messrs. Knox & Wells.

WORKING-CLASS DWELLINGS, WALWORTH.

Ten blocks of dwellings are in course of erection on an island site in Rodney-street, Walworth, S.E. They are being built for the trustees of the Peabody Donation Fund from the designs of Mr. Victor Wilkins, York-buildings, Adelphi, the general contractors being Messrs. William Cubitt & Co., Gray's Inn-road, W.C. Accommodation is provided for 180 self-contained one, two, three, and four roomed tenements, each having in addition its own scullery and water-closet. There is a centre one-story block, which combines a steam-heated laundry and steam drying-horses, an up-to-date bath-house, and a large shelter. Grouped round this are perambulator and bicycle sheds. All staircases, sculleries, water-closets, bath-house, laundry, and drying-rooms have the walls tiled. Each living-room has a dresser and ventilated larder and cupboard as a combined fitting, and all bedrooms have a wardrobe cupboard. The living-rooms have portable ranges, with self-filling boilers. The tenants can also obtain a constant supply of hot water from a tap arranged in a convenient position in the court-yard. In each scullery there is a deep white-glazed fireclay sink, with teak draining-board, coal bunker to take 3 cwt. of coal, portable washing copper, and gas cooking stove. The elevations to the buildings are of red sand-faced bricks and artificial stone dressings.

RESIDENCE, OLD CAVENDISH-STREET, W.

Residential premises are in course of construction in Old Cavendish-street, W., from the design of Mr. J. W. Hawkins, Gresham-street, E.C. The general contractors are Messrs. James Smith & Sons, Ltd., New Bond-street, W.

OFFICES, EMBANKMENT, S.W.

A large building is being constructed in Millbank, at the corner of Dean Stanley-street, for the British-American Tobacco Company, Ltd. The architects are Messrs. Gordon & Gunton, Blomfield-street, E.C., and the general contractors are Messrs. W. Cubitt & Co., Gray's Inn-road, W.C. The building will consist of seven floors and the basement, the height from pavement level to the eaves being 80 ft. There will be two stories in the roof and towers at three of the corners. The Portland stone is from the Barnes Quarries and the granite from Messrs. Fyfe, of Aberdeen. The steelwork is by the Aston Construction Company, Eagle Wharf-road, N., and the reinforced retaining wall, floors, and strong-room are by the Considère Construction Company, Victoria-street. The heating and ventilating will be by Messrs. J. Jeffreys & Co., Old Queen-street, S.W., and the drainage by Messrs. Davis, Bennett, & Co., Horseferry-road, S.W. The artesian well, supplying about 4,000 gallons per hour, has been sunk by Messrs. Alfred Williams & Co., Old Ford-road, E. Messrs. Waygood & Co., Ltd., Falmouth-road, are responsible for the lifts, and Messrs. W. T. Allen & Co., for the wrought-iron metalwork. The asphalting is by Messrs. Claridge's Patent Asphalte Company, Ltd., and the artificial stone steps by Messrs. Stuart's Granolithic Company, Ltd. The casements, leaded lights, etc., are by Messrs. James & Co., the floor lights by Messrs. J. A. King & Co., and the pavement lights by the British Luxfer Prism Syndicate, Ltd. The wood-block floors are by the Acme Flooring and Pavement Company, Ltd., and the carving is by Messrs. Gilbert Seale & Son. It is expected that the building will be finished by June next.

THE GENERAL POST-OFFICE, WELLINGTON, NEW ZEALAND.

A book has just been issued by Mr. John Mackay, of Wellington, giving an historical account of the buildings in which the work of the post-office has been carried on in Wellington, New Zealand, and also an interesting account of the present building. A small post-office was established in 1840, the same year that saw the British flag hoisted in Auckland, and from that time up to the year 1858 the work of the post-office increased, so much so that several times new buildings and other premises had to be acquired. In 1858 a new building was erected, being ready for occupation in June of that year, but in 1900 it was found necessary to increase the accommodation, and additional premises were taken to house the money-order and savings bank departments. Various additions were then made up to the year 1910, when work on the new General Post-Office was begun, and in two years was completed. The new building is designed in the style of the latest phase of the classic Renaissance, and is plain and massive in appearance. Over the main entrance is a central allegorical group, designed and executed by Mr. Alfred Drury, A.R.A. The walls of the building are of brick, faced on all sides above the basement level with granite from Tonga Bay, near Nelson. All the internal pillars are of steel, encased in brickwork or concrete, and the floor girders are of the same material. The public office is 74 ft. by 58 ft.; the main dome is 24 ft. in diameter, and the seven satellite domes each 8 ft. in diameter. The glazing of these domes has been carried out on the new electro-copper-welding process, by the Luxfer Prism Company, of London. The money-order and savings bank office is to the left of the public office, while on the south side of the building is the new mail-room, which extends for 121 ft. 5 in. by 50 ft. Nearly all the parcel work of the office will be transacted in the basement of the building, where about 11,000 sq. ft. of floor space will be available. There are also large offices for the use of the other departments, and rooms for the Postmaster-General, the secretary, and other principals. The contract for the erection of the building was executed by Messrs. J. & A. Wilson, of Wellington, their contract price being £96,923, and the new building was opened on November 26, 1912.

PICTURE THEATRE, DUNDEE.

A new picture theatre has been erected in Murraygate, Dundee, from the designs of Mr. G. A. Boswell, architect. The hall will accommodate about 1,500 people, and the heating, ventilating, and lighting are all of the most modern systems.

IMPROVEMENTS AT ROCHESTER.

Mr. W. Campbell-Jones is the architect for the extension and improvements which have been carried out to the buildings of the London County and Westminster Bank at Rochester. The contractors were Messrs. C. E. Skinner & Son, of Chatham, and the clerk of works was Mr. J. J. Kerss.

THE NATIONAL GALLERY.

Fireproofing operations, etc., are in progress at the National Gallery, Trafalgar-square, under the direction of Mr. H. A. Collins, A.R.I.B.A., of H.M. Office of Works. The work is being carried out by Messrs. W. Moss & Sons, Ltd., Westminster, and by Messrs. Howell J. Williams, Ltd., Bermondsey.

DORMITORIES, WARWICK-ROW, S.W.

In connection with Messrs. Gorringe's business in Buckingham Palace-road, new dormitories are being erected in Warwick-row and Brewer-street adjoining those already in existence. The architect for the original work was Mr. A. E. Hughes, F.R.I.B.A., Mortimer-street, W., who is carrying out the extensions. The general contractors are Messrs. Hall, Beddall, & Co., Great Castle-street, W., and the steelwork is by Messrs. Drew-Bear, Perks, & Co., Ltd., Battersea. The heating is by Messrs. Wontner-Smith, Gray, & Co., Finsbury-pavement, E.C., and the electric lighting by Messrs. Duncan, Watson, & Co., Berners-street, W. The asphalting is by Messrs. Ellis, Geary, & Co., Cannon-street, E.C., and Messrs. John Bolding & Sons, Ltd., Davies-street, W., are supplying the sanitary fittings.

ELECTRIC THEATRE, KETTERING.

An electric theatre is in course of construction in Kettering from the design of Messrs. Lovegrove & Papworth, Old-street, E.C. The general contractors are Messrs. Beardmore & West, and the constructional steelowrk is by the Aston Construction Company. The fibrous plaster-work is by Messrs. Wilkins, Rae, & Pixton; the collapsible gates are by Mr. A. F. Jones, Crown Works, Stanhope-street, N.W.; and "Eternit" tiles by Messrs. Speaker & Co., Mincing-lane, E.C., are being used.

CHIPPENHAM RURAL DISTRICT COUNCIL (WILTS) WATER SUPPLY.

At a meeting of the Council held recently Mr. T. J. Moss-Flower, C.E., Victoria-street, Westminster, S.W., and Carlton-chambers, Bristol, attended and explained the scheme of water supply he had, in co-operation with Mr. A. H. Lapham, the Council's Surveyor, prepared for supplying a large part of the Council's area with water, including Chippenham Without, Hardenhuish, Langley Burrell, Kington, Langley, Draycott Cerne, Sutton Benger, Christian Malford, etc. The scheme involves the sinking of a deep well and boring, provision of engines and pumps, laying a cast-iron rising main some 2¼ miles long, construction of a large storage reservoir, and some 12 to 14 miles of distributing mains. The scheme was adopted by the Council, and instructions were given for the making of the necessary boring, etc.

MODERN FABLES.—No. V.

THE PALACE OF THE GREAT KING.

A FAMOUS architect was commanded by the King of his country to submit designs for a palace such as suited the dignity of the State, and that architect, who had great love for his art, was overjoyed, thinking that here was the achievement which should set the seal upon his reputation for all time. So he laboured long and arduously, preparing many schemes until he had wrought out one which he considered fitting; this he submitted unto the Lord High Deputy Assistant Acting Grand Chamberlain with intent that it might be laid before the King. And in due course he received writing from the (as before) Chamberlain directing him to produce alternative designs in order that his Majesty, in the greatness of his wisdom, might make choice between them. Then was that architect sad, for in his matured scheme he had great confidence, and ever as he strove to evolve variants his mind returned to that. Nevertheless, after great endeavour, several differing designs did he produce, and in time they were placed before the King, who chose at once the least worthy of them.

Then was the architect more than ever sad, and he entered upon his working drawings with a heavy heart. Now, when these were complete the Court officials and the military commanders about the King each in turn did summon that architect, and did lay upon him commandment that this and that must be so. Then was the architect altogether bemused. "For, lo," said he, "had I known of these essentials my design had been different even from the beginning, for these are vital to the case. Now, therefore must I set to and prepare anew the scheme!" "Not so," said the (as before) Chamberlain. "Has not thy scheme received the approval and commendation of our august monarch? And must it not therefore be carried out? Nevertheless, the points that have been spoken of must in no wise be omitted. Go to! Art thou not a famous architect?"

And in time the palace was built, and the architect drew but small pleasure from it for thinking of his design as he had first conceived it.

Then did his brother architects, and most of all the young men and learners who would in time be of them, marvel and express loudly their wonder that the famous man should so fail of a good result in his great opportunity. And in the end (though the public Press hailed him, misspelling his name in divers strange ways) yet among his fellows reputation had he none. But they knew not of the first design, nor of the Chamberlains and Marshals.

Moral.—Be charitable in all thy judgments.

THE NEO-CLASSIC PHASE OF ENGLISH ARCHITECTURE:

THE NINETEENTH CENTURY. THE CLIMAX OF CLASSIC ARCHITECTURE IN THE NEO-GREC AND ITALIAN PHASE.

MR. RICHARDSON'S ninth and penultimate lecture was possibly the most interesting he has yet given, perhaps because we are more intimately connected with the period covered. At the close of the lecture his audience gave him a round of applause quite unusually enthusiastic on occasions of this sort.

The lecturer said that the nineteenth-century spirit in England began with the reign of William IV. and closed with the death of Queen Victoria, and, though only a few years separated us from the Victorian epoch, yet at the present time a complete change in the attitude of society was apparent, both as regarded thought and taste. The Classic spirit of the courtly eighteenth century ushered buildings into existence mainly conspicuous for their idealistic beauty. Those of the nineteenth century were mainly accounted for by questions of practical utility, but such was the reverence paid to the volume of earlier models that the underlying principles of the established tradition were extended with surety of judgment. The changed conditions demanded from architects and engineers alike a breadth of outlook which was not always attained, a tendency arising in some quarters to forge steel in semblance of iron. About the year 1844 came the mania for railway speculation, and many architects took up railway practice, designing some of the finest bridges and railway-stations in the country. In fact, the services of British architects were speedily in demand in all parts of Europe and America.

"The facial expression for railway structures was," said Mr. Richardson, "almost without exception consistently Classic. If we examine such fine stations as those at Euston, Newcastle, Huddersfield, or Dublin, or the tunnel façades of Primrose Hill, the North Welwyn, Box, and many others in Lancashire and Yorkshire, the variety and appropriate character of each will provide sufficient evidence. Pugin, righteous Goth, indignantly furious with the increasing number of pagan temples dedicated to Vulcan, published his ridiculous contrasts, and depicted the joys of railway travel in mediæval garb. An echo of this curious outburst occurred in 1870, when Sir Gilbert Scott, for St. Pancras Station, followed the lead of Sir Charles Barry and bedizened a building Classic in plan and form with Gothic jewellery.

Cheek by jowl with the reserved Classic tradition the revived Gothic trailed its way through fifty years of the nineteenth century, forced by the very exigencies of the times to thinly veil its obviously Classic body with a diaphanous gown of mediæval texture, which in the progress of years wore to shreds.

As previously mentioned, the Classic tradition was shorn of its domestic aspect at the close of the Regency, though in its highest forms it remained unassailable. The formality associated with the ranges of eighteenth-century, terrace houses still provided the theme for compositions of similar extent: but the brutalising needs of an industrial population finally extinguished the subtle, almost aristocratic character common to even the humbler dwellings of the courtly age. Miles of coarsened buildings sprang up with the persistency of obnoxious weeds. These in turn were succeeded by further travesties of taste, and are without doubt the direct ancestors of the lowest type of speculative houses, which represent the expansion of English suburban districts during the last quarter of a century.

The prosperous cotton-spinners of Oldham, Blackburn, and Manchester followed the railroad to Bournemouth and found blissful sanctuary beneath the roofs of pseudo-Gothic villas. Others less fortunate were content to hide from the ghastly labyrinth of their own creation nearer at hand, hence the thousands of nameless structures disfiguring the western hills of Derbyshire and the coast villages of North Wales. England, the history of thy commercial success is deeply scarred in the countryside! The smug conceit of the age blinded it to its own brilliant possibilities, the long peace following the battle of Waterloo matured in a prosperity best described as overripe. The grave commissioners of ecclesiastical art claimed a sweeping victory, but in their hour of supposed triumph lost one of their foremost men by the forced secession of Sir Gilbert Scott. The battle of the styles was ended by a Goth designing a fine Classic building for the Treasury. The Classic tradition was put to a severe test, but maintained its well-being down to a more recent date than is commonly supposed.

Before the Greek phase had completely run its course a marked change of opinion was expressed in circles devoted to the Classic spirit. The shackles of convention hitherto worn so rigidly were proving irksome. From Karl Schinkel and Leo Von Kleuze, in Germany, and from Paris came a new message to the coteries in London. It ran:—"From the old Roman and the old Italian learn a lesson; blend the truths of each with the finesse of Greek art, and ever keep in mind the meaning of the modern age." Almost simultaneously a response was made by Cockerell, Barry, and Elmes; others joined the group, and the tradition blazed to great refulgence. After the year 1870, and almost concurring with the rise of Nesfield and Shaw, a wonderful aftermath ensued, a later growth of Classic architecture, which connects the main issues of the tradition with the phenomenal developments taking place to-day. The tentative experiments of Norman Shaw and Eden Nesfield were in reality a return to the earlier seventeenth-century phases of the tradition. Shaw endeavoured, by sheer strength of personality, to blunder through to academic Classic, but he made the attempt too late in life. The work of the late Mr. John Belcher, especially the noble frontage of Electra House, shows a finer grasp of the academic theory.

The competitions for public buildings during the last fifteen years have produced nothing more than hybrid Classic. Picturesque Dutch, Flemish, French, and Spanish importations have been experimented with only to die prematurely. In addition, we have experienced during the past thirty years the phenomenal rise of the domestic school, characterised at one stage by faulty renderings of provincial Classic and at another period with an excess of picturesque *motifs*. And only now at the beginning of the twentieth century do we realise that the finer expressions of civil architecture have still to be attained if competition with the achievement of the past is desired."

Mr. Richardson then gave a synopsis of the principal works of Cockerell, Elmes, Baseir, Sidney Smirke, Sir Charles Barry, Sir James Pennethorne, and others, which lack of space unfortunately compels us to omit. He then concluded the lecture proper by saying that he thought no theory was so stultifying to architectural development as that which implies that buildings can only be recognised as good architecture many years after their authors were dead. English architects were deficient in imagination regarding the planning of great civic conceptions, but the wealth of invention displayed in the composition of civic buildings showed that, as a nation, we had plenty of material to mould into shape. There was apparent, he felt, a lamentable lack of policy at the Royal Academy Schools, and no really great training institution was in existence, methods of academic training being undertaken in a haphazard manner. Until a national school of architecture was called into being a critical tribunal was an impossibility.

The slides which were then shown were all exceedingly interesting, but only a few can be dealt with here. Cockerell's work was illustrated by views of the Threadneedle-street frontage of the Bank of England, which he unified by remodelling the attic story after removing the meaningless finials and vases which Soane had placed there. Cockerell's masterpiece, Mr. Richardson thought, was the Liverpool branch of the Bank. He pointed out how the attic story was made to appear far back, though it was not really so, thereby emphasising the beautiful tetrastyle portico. Others of this architect's works shown included the Manchester branch of the Bank (the design of which showed the influence of Spencer House in the separated columns and pilasters at the ends); the London and Westminster Bank, Lothbury, originally two or three bays shorter—a subtle design, showing the value of a curve line, and terminated by appropriate pylons. The lecturer, however, was of opinion that a slight balcony over the central doorway to emphasise this feature would improve the design.

The Taylor and Randolph buildings at Oxford, also by Cockerell, had the great fault of a bad junction between the connecting-link and the wings. The tetrastyle portico, however, was perhaps the most elegant in England. The lecturer pointed out the great advance in baluster design observable in this building. The proper vase form was given, not the "two-bottle style."

The University library at Cambridge, of which only a fragment was carried out, showed great refinement of Neo-Grec detail. The whole design was close-knit, the pilasters, for instance, finding an echo above the cornice.

Harvey Lonsdale Elmes, who most unfortunately died at the early age of thirty-three, created the designs for St. George's Hall, Liverpool, though he did not live to see the completion of the work. The final design for this building, the union of a design for a concert hall and one for assize courts, was, said Mr. Richardson, a marvellous composition quite equal in mastery to St. Paul's. The plan was good, because it had a definite head and foot and afforded perfect circulation. The effect of the exterior, dramatic and monumental in character, was derived solely from subtle proportion, rhythm of masses, and the contrast of the wings. Elmes was responsible for all the full-size detail drawings, though Cockerell carried out the later parts of the work. A photograph of the interior of the hall showed how different circles were used for arch and vaulting, not concentric, the outermost being stilted and rising higher. This prevented any feeling of insipidity, and made the design nervous and full of life.

The series concluded with some of the early railway successes, such as the entrance to the bridge across the Menai Straits, a quite

dramatic grouping, as even the railway company have discovered, since they now use it as a poster design. Kingsbridge Station, Dublin, by S. Wood, though poor in detail, being built of granite, was another fine building shown. In fact, as Mr. Richardson pointed out, not for the first time, Dublin was a city well worth the attention of English architects, and strangely neglected by them.

THE NEW ENGLISH ART CLUB.

THE fiftieth exhibition of this Society, held in the Suffolk-street Galleries, proves that, though the club may be getting middle-aged, its members are still young enough to do their work for the sake of an ideal rather than as a mere means of livelihood; and the result of such an attitude is that the work is always interesting, even when the ideals are as superficial as most twentieth-century ideals are. The exhibitors have, however, nearly all realised one fact of real importance, which was forgotten in England for a whole century, and is still unguessed at by more than half the population, and that is that art does not exist for the sole purpose of making pretty things to distract childish minds. Indeed, some of the work is so wilfully "un-pretty" (not quite the same thing as ugly) as to suggest that its creators are afraid of the snare of beauty, their attitude towards it being almost identical with that of the puritans, whom, however, they would be careful to shock in other ways—just to show their freedom from cant. When the public has to some extent learnt that prettiness and the more obvious forms of "truth to Nature" are not essential to a good picture we shall hope for a more balanced outlook on the part of the artists. At present artists and public are enigmas to each other, and consequently have a contempt for each other quite unjustified by the facts. Modern art has progressed too fast. Perhaps progressed is hardly the right word. Let us rather say, has changed its point of view too rapidly for the public to follow it, and till there is again some stability and unity of purpose among artists they can hardly expect the multitude to appreciate their work or even take much interest in it at all.

For those enlightened beings, however, who, by the accident of environment or from a real feeling for art, are more or less in touch with modern painting there is much of interest in the present exhibition. Mr. A. McEvoy's portrait of Professor Ward is quite the best piece of painting we have seen recently. The "quality" of the paint, the delicacy and refinement of the colour, and the solid drawing of the head form a combination of excellencies not often found within one frame. In the same room there is a large cartoon, "The Flute of Pan," by Mr. Augustus John, which is admirable in design, finely drawn in some places and deplorably careless in others. This artist seems temperamentally unable to carry through to completion the really splendid conceptions that come to him. Every other quality except perseverance is his—a fact which only increases our regret that the one thing needful is lacking.

Among the landscapes there is nothing better than "From Monte Solaro," by Mr. H. Squire (No. 108). The design is unusual and interesting, though we think a little too much prominence has been given to the secondary centre of interest—a group of buildings on the extreme left. But the principal attraction of the picture lies in its effect of hot, sunny, and rather misty atmosphere, allied to brilliancy of colour. Some excellent drawings are shown by Mr. A. Rothenstein, and we were also greatly attracted by a small water-colour (No. 253) by Mr. Tonks, which seemed to us a perfect example of the right way to use this medium.

Mr. Steer is hardly seen at his best, and the complete absence of work by Sargent, Muirhead Bone, Connard, the inimitable Max Beerbohm, and other members leave gaps which are much to be regretted. Nevertheless the exhibition is one which all interested in English painting should see.

NEW ST. PANCRAS TOWN HALL.

St. Pancras Borough Council is to be recommended by the Parliamentary and General Purposes Committee to prepare a scheme for the reconstruction of the present Town Hall.

ARCHITECTURE AND THE STAGE.

AMONG the best, if not the best, of the plays revived at the St. James's Theatre with marked success is "The Doctor's Dilemma," which has always attracted more notice than any other play of Mr. Bernard Shaw, as who among us is not interested in that sealed and mysterious book, the human body, of which doctors know very little and the rest of us nothing at all?

The unconscious and conscious quackery of the doctor and the blind factor of the patient are all disclosed to us in brilliant dialogue, the "muciform sac," the removal of which forms a surgeon's one operation, reminding us of the fashionable appendix, whose terrors lurk with some of us by day and night. The charming old Sir Patrick Cullen, whose experiences have left a pleasant and sympathetic scepticism, is well given by Mr. J. D. Beveridge, while Messrs. Arthur Whitby, Ben Webster, and Nigel Playfair ably sustain the parts of the fashionable practitioners whom they represent. Mr. Leon Quartermaine's Dr. Blenkinsop, the doctor who makes a bare living out of a poor practice, is admirable and lifelike; while the artist, Louis Doubledot, is played by Mr. Dennis Neilson-Terry with insight and conviction. Miss Lillah McCarthy takes the part of Jennifer, and gives that complex and difficult character with success and charm, though we felt her action was a little over-emphasised at times. The play, like most of Mr. Shaw's, stages exceedingly well.

At the Globe "The Night Hawk," a most amusing comedy by Messrs. Lechmere Worrall and Bernard Merivale, delighted an appreciative audience. The plot is of the slightest and most improbable description, which, however, does not spoil the effect of some very excellent fooling, good staging, and effective dressing. Mr. Kenneth Douglas, who takes the chief part of the Hon. James Daubenay, makes the piece, and portrays a thoroughly likeable young fool of the best class placed in awkward positions in a way which is intensely humorous. The farmer, Jacob Bannister, an utterly impossible character, was ably acted by Mr. J. Fisher White; while the parts of the four lady "hawks" were well given by Mesdames Madge Haynes, Mary Agate, Pearl Aufrere, and Grace Newcombe. The heroine, Ruth Bannister, was charmingly acted by Miss Jane Cooper, an actress who should have a future. Her appearance in the last scene, where, tired of her intolerable father, she visits Mr. Daubenay's rooms and declares her intention of joining the company of night hawks, was exceedingly effective. Both scenery and dresses were of the brightest and most attractive: and those who do not require that a play should point a moral or inculcate philosophy will be able to pass a pleasant evening in seeing it.

STUDENTS' WORK IN MANCHESTER.

IN a recent issue we reviewed an exhibition of designs and measured work by the students of the Manchester School of Architecture. At the School of Technology there has been this week an exhibition of the constructional drawings of the students in the classes of Building Construction and Structural Design.

These dual exhibitions might point to an unwholesome distinction drawn in the School between construction and design, were it not that several drawings find an appropriate place in both exhibitions, and, further, that the work shown is emphatic evidence of an effort to impress upon the students the close union—the oneness—of the two elements which are too often dissociated in schemes of technical education.

In our last article we referred to most of the designs shown, so we take first the work of the architectural students in the Construction classes. There is some very sound work among the R.I.B.A. testimonies of study, and one is glad to see that the motley collections of doors and windows, of which these sheets are often composed, give place to a more coherent selection. The steelwork drawings are evidently the result of careful drilling, and should give the students freedom in their practice from the vague terrors which the mere idea of indulgence in modern methods brings to the uninitiated. While some of the architectural drawings are devoted to the representation of the design only, we recognise healthy symptoms in drawings worked out on such practical lines as Mr. Moore's College Quad, though a little reflection upon the model by-laws might have suggested some modification of the rooms in the roof.

The bulk of the work is done by the evening students, who are drawn from all branches of the building world—labourers, artisans, engineering and architectural students—and their work is of a correspondingly miscellaneous order. The First Year studies are naturally tentative. One finds the draughtsmen early emerging from the general mass, and henceforward forming a group to themselves. The serious problem, however, is with the mass, and with them technical education is still the sphere of much blundering. We know too well how often bad examples are copied from books by authors of no architectural training; and the stock mouldings of the joiner's shop appear again at the evening classes, the jerry-builder's stock formulæ are drawn out to ½-in. scale, and our suburban architecture is guaranteed another generation of life. In Manchester there is a determined effort to deal with this kind of thing. It is, of course, impossible to train an artisan in design. His own life-work is too big a thing to allow him to think of undertaking another. But there is no reason why when he draws he should not draw good detail; why he should not realise that there are bad proportions and good; why he should not learn to discriminate between the rubbish of builder's design, with its meaningless trimmings, and stuff of a simpler and more sincere sort, as did his forbears of the eighteenth century.

This is strongly recognised in the Manchester School. In the Second-Year work we find studies of simple and well-proportioned subjects drawn with distinctness and understanding, and much attention appears to be paid to the drawing of full-size details. Among the Third-Year drawings are studies of larger subjects, sections of buildings drawn by the students to ½-in. scale and full size from small scale examples which are developed constructionally in the class as one would work out one's details in an office.

At this stage the engineering students come out from among the rest and pursue their own course into labyrinths which are the wonder of their architectural brethren. Their drawings on view are careful and elaborate studies of purely constructional problems worked out with great thoroughness and clearness of draughtsmanship. There are examples of all types of construction, from grillages to roof trusses, and a set of complete working drawings for the structural work of a theatre. We would suggest that some day an engineering and an architectural student in the School might collaborate on some such scheme with much mutual advantage

COURAGE IN COLOUR.

MR. R. GOULBURN LOVELL, A.R.I.B.A., Vice-President of the Society of Architects, read a paper before the Society on the 11th inst. on a subject which is at present rapidly coming into prominence in the minds of those responsible for house decoration. As Mr. Lovell said, "There are indications that the colour sense is awakening, and that the feeling for pure colour is growing . . . and a knowledge of the theory of colour will place a much-needed tool in the hands of the architect, the designer, and the decorator."

Mr. Lovell's contribution to the subject, however, consisted of more than a mere restatement of the usual scientific theory of three primary colours—red, blue, and yellow, from the combinations of which all varieties of colour can be obtained. And, lucid as was his exposition of the mysteries of complementary colours, simultaneous and successive contrasts, and so on, the most interesting part of the paper dealt with certain mechanical devices he has himself invented as aids in the composition of harmonious colour schemes.

The devices take the form of colour charts. The first—called Chart 1A—consists of the primary, secondary, and tertiary colours, arranged in concentric circles. The primaries touching the inner circle are red, blue, and yellow. Then come the secondary colours—orange, green, and violet; and outside these the intermediate secondaries—red-orange, yellow-orange, yellow-green, blue-green, blue-violet, and red-violet. On the outermost circle of all are the tertiaries—orange-russet, russet, violet-russet, violet-olive, olive, green-olive, green-citron, citron, and orange-citron. Over this chart a disc with certain holes cut in it can be

rotated, and matters are so arranged that if the designer has decided on the dominant tone for his colour scheme he can, by rotating the disc till one of the holes is immediately over that colour as shown on the chart, see at once a good contrasting colour to use with it, and even get some intimation of the proportions in which the two colours should be used. The same chart will also show him the various pairs of complementary colours. On this page will be found a rough diagram which will give a clearer idea of this ingenious device than a mere verbal description can do.

Chart 2A is a chromatic circle showing the gradations of twelve pure colours; and Chart 3A is also a chromatic circle showing the same colours, but broken with black or white. By placing Disc 2B over either of these charts the successive complementary colours are seen in the openings as the disc is revolved. By similarly using Disc 3B the best colour combinations are obtained. The circular lines on the discs assist in finding and comparing the corresponding shades of different tones.

The Lecturer also emphasised in his paper the essentials of good colour. The first essential was, he said, gradation either of shade or of colour. Gradation gave greater luminosity and beauty to colour, and was always to be seen in Nature. The second essential was contrast, and, though all gradations were beautiful, all contrasts were not. To safely employ courage in colour contrasts required knowledge and skill, and Charts 2A and 3A were intended to afford a guide in this respect, and the student who used these charts continually would, he thought, soon learn to discriminate between good taste and bad taste in colour, and proceed to employ greater courage in the use of colour on every opportunity. Far more effect was to be gained by colour than by ornament, and, in addition to this, there was far greater economy in the cost.

In conclusion, the Lecturer referred to an aspect of colour not usually borne in mind by decorators. It had, he said, been proved scientifically that colour had an effect on life and health. Blue was stimulating, while green was enervating; and the colours between ran in the following order of life-giving properties—blues, violets, yellows, reds, and greens. This aspect of the question should, he thought, be constantly borne in mind, especially in hospitals and sanatoria, where the patient would have a hopeful, stimulating outlook on life if lying within blue surroundings, an entirely opposite effect being obtained by greens and reds, the colours most commonly found in such institutions.

BOOKS.

Home Interiors. By R. GOULBURN LOVELL, A.R.I.B.A., M.S.A. In five sections at 15s. each net. (London: The Caxton Publishing Company, Ltd.)

THIS work is planned on a distinctly novel system. Its purpose, as outlined in the Introduction, is to afford "an authoritative guide to decorators and upholsterers, drapers, designers, and all those professions dealing with colour and colour selection . . . and includes a definite means of securing correct colour combinations in all materials and for all purposes, whether in the home itself or the accessories, such as ornaments and costumes." It is in the "definite means of securing correct colour combinations" that the novelty of the work consists.

By means of some extremely ingenious mechanical devices, consisting of coloured charts and revolving discs, the author claims to have provided "an exact method of determining the most effective colour contrasts and combinations, and, what is even more important, an equally effective means of avoiding bad ones." The accompanying simplified diagrams will give the reader a better idea of how two of these charts and discs work than any description in words could do.

We have tried a number of the combinations given by these methods, and admit the claims of the author to the extent that the result is always pleasantly harmonious. It is quite impossible (if the very lucid instructions given are properly followed) to obtain discordant colour schemes. To all people who are without an instinctive colour sense these charts will prove an absolutely safe guide, and will prevent them committing bad errors of taste. But we are not yet convinced that really fine colouring ever has or ever will be produced by any mechanical contrivance, however ingenious and however complete. The difference between really good colour and abominable discord is very small. In fact, the better the colouring the nearer it is to disaster. Safe harmonies at the opposite pole to discords are never distinguished. They are dull.

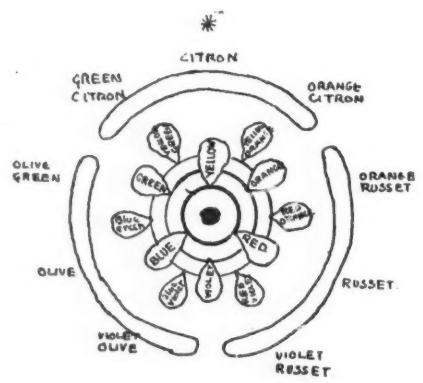
Then, too, the question of the relative masses of the different colours is as important to a good colour scheme as the precise tones of the colours themselves. True, an attempt is made to deal with this in his charts by Mr. Lovell, an attempt which, so far as it goes, is perfectly correct, but it can only give a rough idea, and the limits of error are too wide to enable a result of real distinction to be gained.

We must confess we are relieved that it is so. We do not want to see the artist supplanted by the machine; at the same time, we quite see the value of Mr. Lovell's work. If his contrivances were widely used by those who know themselves to be lacking in taste and invention much of the at present too insistent ugliness would disappear, and the users would at least learn what to avoid—the first step on the road to knowledge of what is really fine.

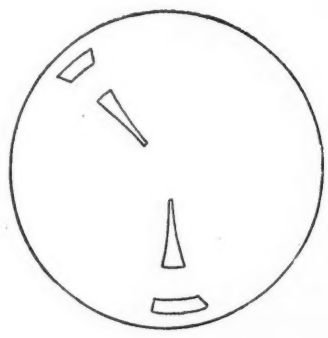
As a supplement to his charts and discs the author gives a short account of Helmholtz' theory of colour and some interesting variations of the experiments in simultaneous and successive colour contrast to be found in the text-books on optics. The value of this to the decorator seems to us doubtful. But of greater importance are Mr. Lovell's remarks under the heading, "General Points to be Observed." They are quite evidently the fruits of long experience, and for that reason deserve careful attention. His seven essentials—utility, unity, proportion, principality, repetition, colour, and individuality—cover the principal points to be taken into account in considering problems of decoration.

The remainder of the work is occupied entirely with coloured plates and detail drawings giving complete schemes for the decoration of twenty rooms. All the examples are of such rooms as are likely to be found in houses with rentals of from £25 to £75 per annum—that is to say, the class of rooms which will usually require considerable ingenuity to make them look tolerable. As far as we can gather from the first section of the work, which is all that has so far been published, Mr. Lovell has managed to combine originality of treatment with great economy of outlay. His methods are simple and cheap, but he succeeds in getting a wonderful variety of effect nevertheless.

The colour printing is quite satisfactory, but we wish more trouble had been taken with the water-colour drawings from which the reproductions are made. We are aware that the necessity of showing in the same sketch the greater part of three walls of a small room necessitates adroit juggling with the laws of perspective, but that is no excuse for such careless treatment as has been accorded to the recess for the fireplace in Plate III.A, for example. Only very careful reference to the accompanying working instructions will enable the reader to grasp what the drawing is intended to show. Also, we were amazed to find, when reading the working instructions after first looking at the plates, that this particular room measured 20 ft. by 13 ft. The impression given by the plates is that of a square or nearly square room. It is unusual, too, for the door to open outwards. We point out these trifling errors in no carping spirit, but in the hope of giving some slight help towards the improvement of the remaining sections of what is undoubtedly a most interesting work.



Colour chart showing Primaries, Secondaries, Intermediate secondaries, & Tertiaries.



Grey disc with slit openings which when superimposed on chart, shows complementary colours, & proportions safe to use.

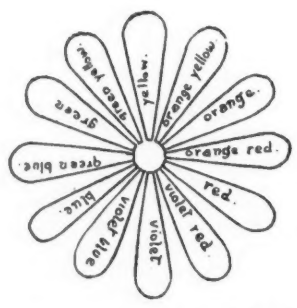
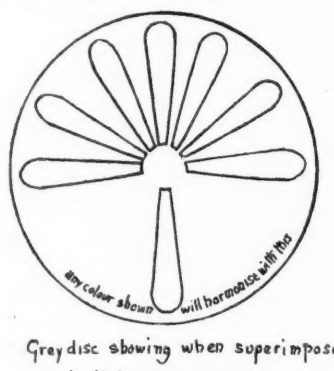


chart giving chromatic circle of 12 pure colours.



Grey disc showing when superimposed on chart, harmonising colours

From "Home Interiors," by Mr. R. Goulburn Lovell.

Mechanics for Builders. Part I. By E. L. BATES and F. CHARLESWORTH. (Longmans, Green, & Co., 39, Paternoster-row. Price 3s.)

IT is a little difficult to criticise the first part of a work without seeing the second part, especially when references to the second unpublished part are made in it.

We may say without hesitation, however, that this text-book gives a very great deal of information in exceptionally plain language which a builder ought to know all about, while there is relatively little that would not come in useful some day.

The sketches of models illustrating mechanical principles are a good feature. They could be constructed by any intelligent youth with fair mechanical skill, and their use would fix the facts in his mind with a realism hard to achieve by mere book reading.

The weak part of this book is the chapter on simple machines, in which the illustrations are badly drawn even if considered diagramatic. The author suggests mechanical efficiencies far in excess of the probable truth, 48 per cent. for the ordinary differential pulley block being perhaps the most glaring example.

On p. 60, Fig. 49 has been lettered upside down, and naturally the printer followed suit, making nonsense of the problem. On p. 184 the omission of a few words again makes nonsense, and the same result is arrived at on p. 191 by describing Fig. 172 as Fig. 171. Notwithstanding these blemishes, the book is a good one, and very suitable for the perusal of a practical workman versed only in elementary arithmetic and algebra.

Leasehold Enfranchisement: The Case For and Against, and a Practical Scheme. By E. A. COLLINS. (London: P. S. King & Son. 1913. Pp. 114. Price 2s. 6d.)

IT is refreshing to find anyone who can touch upon the "land question" without indulging in personalities or displaying party views. The writer of this little treatise is therefore to be congratulated on the method in which he has handled his subject.

The first two chapters deal with the disadvantages of the present leasehold system and the subsequent chapters suggest reforms.

In the case of leases for an original term exceeding thirty years the writer's recommendation is that leaseholders should be given the same right of compulsory purchase as is possessed under statute by railway companies and other corporate bodies, but he suggests a special tribunal, and formulates a code with the object of simplifying procedure and diminishing costs. Thus there is something in common between his scheme and that recently foreshadowed on behalf of the Government. The author also puts forward proposals for securing continuity of tenure in the case of short leases, and he further advocates the extension of sect. 3 of the Conveyancing Act, 1892, so that no fine shall be exacted in longer leases for alteration or additions to the property, or a change of user.

Where convenants in leases are to be relaxed it is, however, important that the rights of third parties should be observed, as the object of certain convenants may be to preserve the amenities of building estates, but this seems no reason for the landlord exacting mere penalties. The author deals with all these questions in an extremely lucid manner.

BOOKS RECEIVED.

APPLIED MECHANICS. By C. E. Fuller and W. A. Johnston. (London: Chapman & Hall. 10s. 6d. net.)

THE EARLY WEIGHTS AND MEASURES OF MANKIND. By General Sir Charles Warren. (London: Palestine Exploration Fund. 7s. 6d.)

VALUATIONS AND COMPENSATIONS. By Banister Fletcher. (London: B. T. Batsford. 7s. 6d. net.)

THE LIBRARIES, MUSEUMS, AND ART GALLERIES YEAR-BOOK, 1914. (London: Stanley Paul & Co.)

KENT (2 vols.: County Churches Series). By F Grayling. (London: George Allen & Co. 2s. 6d. net each.)

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, S.W., Mr. Cyril Cobb, Chairman, presiding.

Tenders.—Tenders were received for remodelling, etc., the Star-lane School, Fulham, and for the reconstruction of a portion of the Clerkenwell Fire Station.

Loans.—The Finance Committee recommended, and it was agreed, to make loans to Borough Councils as follows:—Deptford, £2,100 for paving works; Hammersmith, £9,427 for electricity undertaking; Islington, £9,300 for paving works; Lambeth, £33,563 for purchase of property; Lewisham, £950 for street improvement; St. Marylebone, £18,000 for paving works; Southwark, £29,334 for electricity undertaking; Stepney, £990 for acquisition of property for a depôt; Stoke Newington, £6,000 for electricity undertaking; and Wandsworth, £50 for street improvements.

London University Site.—The Education Committee recommended that the Council approve generally the site of Somerset House as suitable for the University of London, and that the Council be willing to join with the Senate of the University in asking the Government to receive a joint deputation with a view to setting forth the advantages of Somerset House as a centre for the University. Mr. J. Thomas moved that the Council should not approve the Somerset House site, as, in asking the Government for this site, they were asking for a site which he was told was worth £2,000,000. The building was old and not suitable for the purpose, and would practically have to be reconstructed. This amendment, after some discussion, was rejected, and a further amendment was then accepted stating that the Council's approval would be subject to the assumption that the Government would continue to be responsible as heretofore for such provision in respect of site and buildings as would be needed for the full extension of the University. To this Lord Peel moved an amendment suggesting a site on the south bank of the Thames, the objection he had against the riverside site being that it was not accessible. This amendment, however, was defeated. Ultimately the recommendation of the Committee was agreed to, and it was then further decided that, "if the Government cannot agree to a centre for the University being established at Somerset House, the Education Committee be instructed to consider and report upon the proposal to establish it upon a site on the south side of the river, where it would form an important feature in the beautifying of London."

The Council adjourned until Tuesday, January 20.

THE METROPOLITAN WATER BOARD.

AT the sitting of the Metropolitan Water Board on Friday last week the following matters were dealt with:—

Building Supplies.—The Finance Committee reported that the amount received for building supplies during the half-year to September 30 was £14,051. The Appeal Committee reported on the judgment in the Court of Appeal in the case of "The Board *v.* Johnson," where the Court held that it was not open to the Board to pass a general resolution that building supplies must be afforded otherwise than by measure, but that it was indispensable that the Board should exercise its discretion on each individual application for a building supply. Many thousands of these applications are received in the course of a year, and each one of them involves the examination of bills of quantities and other particulars which frequently comprise voluminous matter, and the Board would see that it might be necessary for the Committee to adopt the altogether impracticable course of sitting from day to day in order to deal with the cases as they arise, in view of the fact that persons desiring a building supply have a statutory right thereto, and the supply should be laid on without avoidable delay. The only alternative which presented itself to them was to abandon the existing practice of affording building supplies at the rate of 7s. per £100 and to substitute therefor supplies by measure. There was no doubt that this change of practice would involve the Board in a considerable loss of revenue, probably from £6,000 to £10,000 a year, but having regard to the special circumstances of the case they had come to the reluctant conclusion that this was unavoidable. While they suggested that as a general rule the supplies should be afforded by meter, they thought that the Committee should continue to be empowered to assent, if they thought fit, to any application by a builder to be allowed to take a supply under the terms of the proviso to sect. 17, as otherwise a builder requiring a supply for a small work would be put to unreasonable expense in connection with the provision of a metered supply.

The New Offices.—The General Purposes Committee submitted a lengthy Report with reference to the Board's resolution to erect their central offices on their land in Rosebery-avenue. They suggested that about 1 acre be devoted to the offices, and that the new building must provide the following accommodation:—Board-room, committee-rooms, Chairman's and members' rooms, and library, 5,100 sq. ft.; Clerk's department, 15,000 sq. ft.; Accountant's department, 17,000 sq. ft.; Engineer's department, 15,000 sq. ft.; Solicitor's department, 2,200 sq. ft.—total, 54,300 sq. ft. In addition it would be necessary to provide luncheon-rooms and general waiting-rooms, lavatories, housekeeper's quarters, and about 6,000 sq. ft. for the storage of the Board's papers. The Committee had also given careful consideration to the question of the procedure which the Board should follow in connection with the erection of the building. They thought the Board would desire to invite competitive designs for the new building, and therefore suggested that they should be authorised to select six architects who should be asked to prepare plans for a building upon strictly economical lines. They also suggested that they should be empowered to call in a professional assessor to advise on the conditions of the competition and on the final selection of the designs. They were of opinion that the adoption of this proposal would avoid unnecessary expenditure and labour, and would, moreover, save a considerable amount of time. The preliminary expenses, including the fee of the assessor, would amount to about £300. They had also directed their attention to the manner in which the Oak-room and the adjoining room with the dated ceiling were to be dealt with. They thought it would be the wish of the Board that these rooms should, if possible, be incorporated in the new building exactly as they stood, and therefore suggested that the selected architects be required, if reasonably possible and practicable, to arrange accordingly.

The Report was adopted.

METROPOLITAN ASYLUMS BOARD.

AT the fortnightly sitting on Saturday last week of the Metropolitan Asylums Board the following matters were dealt with:—

Quantity Surveyors.—Messrs. W. H. Barber & Son, 22, Buckingham-street, Adelphi, W.C., were appointed to take out the quantities in connection with the repair and painting works to Brook Hospital at a commission of 2½ per cent.

Tooting Bec Asylum.—It was agreed that the plans prepared by Mr. T. W. Aldwinckle, architect, for the execution, at an estimated cost of £4,710, of sundry additional building and other works in connection with the extension of the Tooting Bec Asylum, be approved and adopted, and forwarded to the Local Government Board for their sanction. It was further agreed that plans prepared by Mr. Aldwinckle for the extension of the boiler-house, etc., at the Asylum at an estimated cost of £3,144, be approved and sent to the Local Government Board for approval.

The Asylums Committee reported on the letter received from the Local Government Board, asking on what grounds so large a house is proposed for the Medical Officer of Tooting Bec Asylum, and stated that they considered the accommodation proposed, the estimated cost of which is £2,360, is what is requisite without wasted space or extravagance. The Report was ordered to be forwarded to the Local Government Board.

OBITUARY.

Mr. R. D. Sandilands.

WE regret to announce the death of Mr. Robert Douglas Sandilands, F.R.I.B.A., I.A., a well-known Glasgow architect, which occurred at his residence in Pollokshields. Mr. Sandilands, who was a partner in the firm of Messrs. Thomson & Sandilands, of Glasgow, was one of the Vice-Presidents of the Glasgow Institute of Architects and a leading member of the profession in the city. Between thirty and forty years ago he went to Glasgow from the Upper Ward of Lanarkshire, and after serving as an architect's pupil in the city he sought further tuition and experience in Paris. While there he attended L'Ecole des Beaux-Arts, and his period of residence in Paris extended over five years. On his return to Glasgow about twenty-five years ago he started practice in partnership with Mr. John Thomson, F.R.I.B.A., I.A. Among the more important buildings erected to the plans of the firm are the Glasgow District Asylum at Gartloch, Stobhill Hospital, Govan Town Hall, Glasgow Parish Council Offices, the Royal Insurance Offices in Buchanan-street, the City Improvement Trust buildings near Glasgow Cross, and a large number of churches and schools, the latter including the new Hutchesons' Girls' Grammar School.

PARISH HALL, HOVE.

The Parish Hall, Hove, has just been completed from the design of Messrs. Read & Macdonald, Cork-street, W. The builders were Messrs. Chapman, Lowry, & Puttick, of Haslemere, and the steel contractors Messrs. H. Young & Co., Ltd., the Nine Elms Ironworks, S.W. The flooring has been laid by the Kleine Patent Fire-Resisting Flooring Syndicate, Ltd., High Holborn, W.C., and the electric lighting is by Messrs. H. J. Cash & Co., Ltd., Westminster.

BUILDING, HANOVER-SQUARE, W.

The old premises at 12, Princes-street, Hanover-square, are being reconstructed on modern lines for business purposes, under the direction of Mr. Robert Angell, architect, Regent-street, W. The general contractor is Mr. George Neal, Kilburn, and the steelwork is by Messrs. H. Young & Co. Ltd., the Nine Elms Ironworks. Penrose lifts are being installed, and the ornamental ironwork, etc., is in the hands of Messrs. Thomas Brawn & Co., Clement-street, Birmingham.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions,—; Contracts, iv. vi. viii. x.; Public Appointments, xxi.; Auction Sales, xxvi. **Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.**

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

***** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.**

Competitions.

DECEMBER 31.—**London.**—GOVERNMENT BUILDINGS.—The Commissioners of H.M. Works and Public Buildings invite designs from architects in competition for new offices for the Board of Trade, etc., in Whitehall-gardens, S.W. For particulars, see issues for September 5 and October 17, and also advertisement in issue of September 5.

JANUARY 2, 1914. — **Manchester.**—NEW BUILDINGS AND ALTERATIONS.—The Board of Directors of the Manchester Royal Exchange, Ltd., invite architects to submit designs for additional new buildings and alterations on the existing Exchange buildings. **See advertisement in issue for September 5.**

FEBRUARY 1. — **Coventry.** — TECHNICAL INSTITUTE.—The Coventry Corporation invite competitive sketch plans for a Municipal Technical Institute at Pool Meadow.

MARCH 20. — **Belfast.** — ART GALLERY AND MUSEUM.—The Belfast Corporation invite designs for above buildings. Total cost not to exceed £75,000, of which only £30,000 will be spent at once. Assessor, Mr. John J. Burnet, A.R.S.A., LL.D. See advertisement in issue of November 7.

APRIL 1.—**Sofia.**—DESIGNS FOR A ROYAL PALACE AND LAW COURTS.—Particulars from the Commercial Intelligence Branch of the Board of Trade, Basinghall-street, E.C. **See page 173, August 9, and page 350, September 27, 1912; also** page 708, June 20.

APRIL 2. — **Ottawa.** — DEPARTMENTAL AND COURTS BUILDINGS. — The Department of Public Works, Ottawa, invite architects to submit sketch designs in a preliminary competition for above buildings. Six will be chosen from these for final competition. The five unsuccessful competitors will receive $3,000. The winner will be entrusted with the work. See particulars in issue for September 19 and advertisement in issue of September 12.

MAY 4.—**London.**—ST. PAUL'S BRIDGE.—The Bridge House Estates Committee of the Corporation of London invite designs from British architects for the architectural treatment of St. Paul's Bridge. Premiums, £300, £200, and £100 respectively. The assessor is Sir William Emerson, P.P.R.I.B.A. See advertisement in issue of December 12.

MAY 15.—**London.**—CONCRETE COTTAGE.—The proprietors of *Concrete and Constructional Engineering* invite architects and others residing in the British Empire to submit designs of a detached or semi-detached labourer's cottage. Premiums, 100 guineas, 50 guineas, 25 guineas, and two at 10 guineas. See advertisement in issue of December 12.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

DECEMBER 20. — **Aysgarth.** — BRIDGE. — The North Riding of Yorkshire C.C. invite tenders for rebuilding West Burton Bridge in stone. Quantities up to December 20 of the County Surveyor, Town Hall, Northallerton.

DECEMBER 20.—**Healaugh.**—The North Riding of Yorkshire C.C. invite tenders for rebuilding Healaugh Bridge in stone. Quantities up to December 20 of Mr. W. G. Bryning, County Hall, Northallerton.

DECEMBER 22.—**Gillingham.**—VILLA.—For the erection of a villa in Barnsole-road, Gillingham, Kent, for Mr. W. Tanner. Specifications of Mr. Frederick D. Pott, architect and surveyor, 54, Copenhagen-road, Gillingham, Kent.

DECEMBER 22. — **Keighley.** — FENCING. — The Health Committee invite tenders for wood fence to enclose allotments. Particulars of Mr. J. C. Dawes, Sanitary Inspector, Town Hall, Keighley.

DECEMBER 22.—**Leeds.**—INFIRMARY EXTENSION.—The Guardians of Leeds invite tenders for the excavators', bricklayer and masons' carpenter and joiners', plumber and glaziers', plasterers', painters', slaters', ironfounders', hot water heating, and electric lighting work required in the erection of a children's block (accommodation 150 beds), at the Township Infirmary, Beckett-street, Leeds. Quantities of the architects, Messrs. Thomas Winn & Sons, 84, Albion-street, Leeds.

DECEMBER 23.—**Dewsbury.**—SUNDAY SCHOOL.—For the various works required in the erection of a new Sunday School for the United Congregational Church at Ebenezer, Dewsbury. Specifications, etc., of Messrs. Kirk, Sons, & Ridgway, F.R.I.B.A., architects, Market-place, Dewsbury.

DECEMBER 23. — **Kendal.** — DISPENSARY, ETC. — For the erection of dispensary and stock-rooms behind the shop of Mr. Birkett, Finkle-street, Kendal, for Mr. Reiss. Quantities of Mr. S. Shaw, F.R.I.B.A., Kendal.

DECEMBER 23.—**Manchester.**—ALTERATIONS.—The Libraries Committee invite tenders for alterations at Rusholme Branch Library. Quantities at the office of the City Architect, Town Hall. Deposit, £1.

DECEMBER 23.—**Rosslare.**—ALTERATIONS, ETC.—The Board of Public Works invite tenders for executing certain works at Rosslare Coastguard Station, Co. Wexford, according to specification, etc., to be seen at the Coastguard Station and at the Office of Public Works, Dublin.

DECEMBER 23. — **Stockport.** — WALLS. — The General Purposes Committee invite tenders for the labour and materials required in the erection of boundary walls on the improvement lines in Bramhall-lane. Specification, etc., of Mr. John Atkinson, A.M.Inst.C.E., Borough Surveyor, Town Hall, Stockport.

DECEMBER 24.—**Blackhills.**—FARM BUILDING.—For the mason, carpenter, plumber, slater, and painter works of new farm steading at Newfield, Blackhills. Specifications of Mr. John Wittet, architect, Elgin.

DECEMBER 29.—**Aberdeen.**—WHARF.—The Aberdeen Harbour Commissioners invite tenders for the construction of a timber wharf about 600 ft. long and relative works on the north side of the River Dee, within the Port of Aberdeen. Quantities, etc., of Mr. R. Gordon Nicol, Engineer, Harbour Engineer's Office, Aberdeen.

DECEMBER 29.—**Aberystwyth.**—SHOP.—For the conversion of a gateway in Terrace-road, Aberystwyth, into a lock-up shop for Messrs. David Roberts & Sons, Ltd., brewers. Specifications of the architect, Mr. G. T. Bassett, A.R.I.B.A., Aberystwyth.

DECEMBER 29. — **Belfast.** — SIGNAL-BOX. — The Great Northern Railway Company (Ireland) invite tenders for the erection of a signal-box adjoining the railway at Lower Windsor-avenue, near Belfast. Quantities of Mr. T. Morrison, Secretary, Secretary's office, Amiens-street Terminus, Dublin. Deposit, £1 1s.

DECEMBER 29.—**Dartford.**—CEMETERY CHAPEL, ETC.—The U.D.C. of Dartford invite tenders for the erection of cemetery chapels and lodge. Specification, etc., of the Surveyor to the Council, Council Offices, Dartford. Deposit, £3 3s.

DECEMBER 29.—**Rhyl.**—ADAPTION.—For alterations to Claremont Hydro Hotel, Rhyl, to adapt same for the purposes of a convalescent home for the "William and John Jones" Home Trustees. Specifications, etc., of the architect, Mr. J. H. Swainson, A.M.Inst.C.E., 1, Hill-street, Wrexham. Deposit, £2 2s.

DECEMBER 29.—**Teignmouth.**—RESIDENCE, ETC.—For the erection of a country residence and farm buildings at Shaldon, Teignmouth. Quantities of Mr. F. G. Moore, architect, 9, Fleet-street, Torquay. Deposit, £2 2s.

DECEMBER 30.—**Penderry.**—BRIDGE, ETC.—The Swansea R.D.C. invite tenders for the construction of a new bridge and diversion of road at Melin Llan, near Penllergaer, in the parish of Penderry. Information from the Highway Surveyor of the Council, Mr. G. Powell Thomas, Station-road, Forestfach.

DECEMBER 30.—**Worthing.**—STRONG ROOM.—The Corporation invite tenders for construction of a strong room at the Municipal Offices. Mr. J. Kennedy Allerton, Town Clerk, Municipal Offices, Worthing.

DECEMBER 31.—**Bishop's Waltham.**—DRILL HALL.—The County of Southampton Territorial Force Association invite tenders for drill hall at Bishop's Waltham. Specification, etc., of the architects, Messrs Hair & Bucknill, 23, Portland-terrace, Southampton. Deposit, £2 2s.

DECEMBER 31. — **Blackwood.** — UNDERGROUND CONVENIENCE. — The Bedwellty U.D.C. invite tenders for the construction of an underground public convenience at Blackwood. Specifications, etc., from Mr. Dan H. Price, Surveyor's Office, Aberbargoed. Deposit, £1 1s.

DECEMBER 31.—**Leeds.**—REPAIRS AND PAINTING, ETC.—The North-Eastern Railway Company invite tenders for the reparation and painting of station buildings, warehouses, engine-sheds, signal-boxes, stables, platforms, and other buildings in the Leeds zone and district. Zone No. 1 includes Leeds as the centre and the lines radiating to Pool, Wetherby, Micklefield, and Castleford. Detailed schedules of the Company's Chief Engineer, York.

DECEMBER 31. — **Scarborough.** — REPAIRS AND PAINTING, ETC.—The North-Eastern Railway Company invite tenders for the reparation and painting of station buildings, warehouses, engine-shed, signal-boxes, stables, platforms, and other buildings in the Scarborough zone and district. Zone No. 2 includes Scarborough as the centre and the lines radiating to Whitby, Speeton, Pickering, and Rillington. Detailed schedules of the Company's Chief Engineer, York.

DECEMBER 31.—**Withycombe.**—COTTAGES.—For the erection of two cottages at Withycombe, Tedburn St. Mary, Devon, for Mr. J. B. Mann. Specifications at Withycombe.

JANUARY 1, 1914.—**Abertysswg.**—HOUSES.—For the erection of fifty houses, and also for the formation of roads and lanes on site near station, Abertysswg, for Messrs. The Tredegar Iron and Coal Company, Ltd. Specifications of Mr. A. F. Webb, M.S.A., architect, Tredegar-chambers, Blackwood.

JANUARY 1.—**Dawlish.**—MUNICIPAL BUILDINGS.—The Dawlish U.D.C. invite tenders for (1) repairs and alterations to existing buildings for purposes of Council offices, stores, etc.; (2) erection of roller house, cart sheds, etc.; (3) erection of fire-station; (4) excavations and tar paving to form play space for children. Specifications, etc., of the Engineer and Surveyor to the Council, Mr. S. F. C. Churchward, High-street, Dawlish. Deposit, £1 1s.

JANUARY 3.—**Ballymote.**—SCHOOL.—The Board of Public Works invites tenders for the erection and furnishing of national school buildings at Ballymote, Co. Sligo. Specifications can be seen at the Royal Irish Constabulary Barracks, Ballymote. Mr. H. Williams, Secretary, Office of Public Works, Dublin.

* JANUARY 3. — **Teddington.** — BUILDINGS, SHAFT, SEWERS, ETC.—The Teddington U.D.C. invite tenders for erection of buildings, chimney shaft, sewers, manholes, connections, roadways, etc

JANUARY 5.—**Soughton.**—SCHOOL.—The Flintshire C.C. E.C. invite tenders for the erection of a public elementary school at Soughton, near Mold. Quantities, etc., of Mr. S. Evans, County Architect and Surveyor, County Offices, Mold. Deposit, £1 1s.

JANUARY 5. — **Wantage.** — COTTAGES. — The Wantage R.D.C. invite tenders for the construction of four workmen's dwellings, together with the extension of a pipe sewer, the construction of house and surface water drains, sinking a well, and erection of wire fencing and gates. Specifications at the Council Offices, Wantage, Berks, or of Mr. J. W. Harris, Engineer and Surveyor, East Challow, Wantage. Deposit, £1 1s.

JANUARY 6.—**Great Driffield.**—ALTERATIONS TO SCHOOL.—The East Riding of Yorkshire C.C. invite tenders for alterations and additions to the Council School at Great Driffield. Quantities, etc., of the Building Surveyor, County Hall, Beverley. Deposit, £1 1s.

JANUARY 7.—**Ilkley.**—SANATORIUM.—The West Riding Public Health and Housing Committee invite whole or separate tenders for the erection of sanatorium at Middleton, near Ilkley. Quantities, etc., on application to the West Riding Architect, County Hall, Wakefield. Deposit, £1.

JANUARY 7.—**Walton.**—FARMSTEAD.—The West Riding Small Holdings and Allotments Committee invite whole or separate tenders for the three new farmsteads in the township of Walton, near Hare Park Station. Quantities, etc., on application to the West Riding Land Agent, County Hall, Wakefield. Deposit, £1.

* JANUARY 10.—**Lewes.**—SCHOOL.—The Lewes Education Committee invite tenders for erection of an elementary school.

* JANUARY 12.—**Barking.** NEW POST-OFFICE.—The Commissioners of H.M. Works, etc., invite tenders for the erection of a new post-office.

[Those with an asterisk (*) are advertised in this issue.]

BUILDING—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

JANUARY 12.—**Partick.**—SHED.—The Trustees of the Clyde Navigation invite tenders for the construction of a goods shed, 664 ft. long by 100 ft. wide, in one span, on Merklands Quay, Partick. The contract, which is to be under one tender, embraces excavation and concrete work, brickwork in back and end walls, about 400 tons of steelwork, timber work, glazier, plumber, slater, and painter work. Specification, etc., of Mr. T. R. Mackenzie, General Manager and Secretary, 16, Robertson-street, Glasgow.

JANUARY 16. — **Warrington.** — SCHOOL. — The Sites and Buildings Committee invite tenders for the erection of a public elementary school, to be known as the Oakwood-avenue Council School. Quantities, etc., from the Education Office, Warrington. Deposit, £1 1s.

* JANUARY 20. — **Grange-over-Sands.** — CONVALESCENT HOME.—Tenders are invited by the Working Men's Club and Institute Union for the erection of a Convalescent Home at Grange-over-Sands, Lancashire.

NO DATE.—**Bradford.**—REBUILDING.—For the several trades required in the reinstatement of Palmerston-buildings, Manor-row, Bradford. Messrs. J. G. Thompson & Son, Fire Loss Assessors, or William A. Ross, architect, 9 and 10, Parkinson's-chambers, Hustlergate, Bradford.

NO DATE.—**Bradford.**—WAREHOUSE.—Persons desiring to tender for the erection of a warehouse near the Stone Exchange, Sunbridge-road, Bradford, should apply to the architect, Mr. R. Drake, 4, Pearson-lane, Chellow Dean, Bradford.

NO DATE.—**Bridgend.**—For erection of store and alterations to "Ye Old Spirit Vaults," Bridgend, for Messrs. W. J. Rogers, Ltd. Quantities of Messrs. G. F. Lambert & Son, architects, Bridgend. Deposit, £2 2s.

NO DATE.—**Great Horton.**—WEAVING SHED.—For the several works required in the erection of a weaving shed, warehouse, and offices at Great Horton. Messrs. W. J. Morley & Son, architects, 269, Swan-arcade, Bradford.

NO DATE.—**Hull.**—PICTURE PALACE.—For erection of picture palace at Anlaby-road for the Tower Picture Palace Company. Quantities of Mr. H. P. Binks, architect, Royal-chambers, Hull.

NO DATE.—**Stockton-on-Tees.**—SHOP FRONT.—For new shop front, etc., for Messrs. Blakeborough & Rhodes, Ltd., Stockton-on-Tees. Specification, etc., of Mr. T. W. T. Richardson, M.S.A., architect and surveyor, 57, High-street, Stockton-on-Tees.

NO DATE.—**Torquay.**—For the erection of (*a*) detached villa at Barton, Torquay, and (*b*) residence at Torquay. Quantities, etc., of Mr. F. G. Moore, A.M.S.E., A.M.Inst.M.E., architect and surveyor, 9-10, Fleet-street, Torquay. Deposit, £1 and £2 2s. respectively.

* NO DATE.—**Warrington.**—SHOP.—The Warrington Equitable Industrial Co-operative Society, Ltd., invite tenders for new shop premises and fittings.

ENGINEERING, IRON, AND STEEL.

DECEMBER 27. — **Tuam.** — OIL ENGINE. — The Tuam R.D.C. invite tenders for supplying and erecting an oil engine and pump at Tuam Waterworks. Specification of Professor Rishworth, Guthard, Galway. Deposit, 10s. 6d.

JANUARY 2, 1914.—**Margate.**—IRON AND STEELWORK, ETC.—The Corporation invite tenders for (*a*) the supply and erection of the iron and steelwork in connection with the alteration and additions to the existing steel, iron, and glazed pavilion at Westbrook, Margate; (*b*) enclosing and glazing of the above additions and provision of playboxes, vestibule, etc. Specification, etc., of Mr. E. A. Borg, Borough Engineer, 13, Grosvenor-place, Margate.

JANUARY 3.—**Bradford.**—TRAMWAY EQUIPMENT.—The Bradford Corporation are prepared to receive tenders for the supply of electric trolley vehicle equipment, as follows:—(*a*) Fifty-six D.C. series traction motors, 20 h.p., to specification; (*b*) twenty-eight controllers, to specification; (*c*) twenty-eight chassis, to drawings and specification; (*d*) thirty resistances, to specification; (*e*) sixty automatic circuit breakers, to specification; (*f*) twenty-eight junction boxes, to drawings and specification; (*g*) sixty trolley bases, to drawings and specification. Schedules, etc., at the Tramways Offices, 7, Hall-ings, Bradford. Deposit, £5 5s.

JANUARY 5.—**Bury.**—ELECTRIC LIGHTING.—The Bury and District Joint Hospital Board invite tenders for the electric lighting of Ainsworth Sanatorium. Specification of Mr. Fred Wild, Clerk to the Joint Board, Cross-street, Bury. Deposit, 10s.

JANUARY 5. — **Hull.** — BRIDGE.—The North-Eastern Railway Company invite tenders for the construction of the superstructure of the bridge carrying the passenger lines over the goods lines at Priory-yard, Hull. The total weight of steelwork is about 350 tons. Specification, etc., at the office of Mr. C. F. Bendough, the Company's Engineer at York.

JANUARY 5. — **Irlam.** — IRON RAILING. — The Irlam U.D.C. invite tenders for the supply and fixing of a quantity of iron railing. Particulars of Mr. R. H. Winterbottom, Surveyor, Council Offices, Irlam.

JANUARY 5.—**Southport.**—BATHING LAKE.—The Parks, Foreshore, and Cemeteries Committee of the Corporation of Southport invite tenders for the construction of a sea bathing lake and appurtenant works upon the foreshore. Specification, etc., at the Borough Surveyor's Office, Town Hall, Southport. Deposit, £2 2s.

JANUARY 6.—**India.**—BRIDGEWORK.—The Secretary of State for India in Council invites tenders for bridgework. Conditions of contract of the Director-General of Stores, India Office, Whitehall, S.W.

JANUARY 17.—**Edenderry.**—GATES, ETC.—The Edenderry No. 2 D.C. invite tenders for twenty-one iron gates and pairs of piers to match. Mr. T. H. F. Bor, Clerk, Board Room, Edenderry.

FEBRUARY 3. — **Canada.** — STEEL PIPES. — The City of Ottawa invite tenders in duplicate, addressed one copy to the City Clerk, City of Ottawa, Canada, and the other to Sir Alex. Binnie, Son, & Deacon, St. Stephen's House, Westminster, London, England, for about forty-two miles of welded steel pipes, 54-in. internal diameter; about thirty-two miles of welded steel pipes, 58-in. internal diameter; and about eleven miles of welded steel pipe, 51-in. internal diameter. Specification, etc., from Sir Alex. Binnie, Son, & Deacon, St. Stephen's House, Victoria-embankment, London, S.W.; or from the City Engineer of Ottawa. Deposit, $500.

FEBRUARY 16.—**Warsaw.**—ENGINES AND PUMPS.—The Municipality of City of Warsaw invite tenders for the delivery and erection in working order of two vertical compound engines, with plunger, piston, or differential pumps, or of two turbines with centrifugal or turbo-pumps, each capable of delivering 500 litres per second (6,600 gallons per minute) at lifts between 30 and 37 meters, the normal lift being 31·5 meters, with travelling crane and accessories. Conditions, etc., from the Comité de la Canalisation et d'Alimentation d'eau, Hotel de Ville, Varsovie, on payment of 5 roubles, or at the office of the Engineer-in-Chief, Sir William H. Lindley, 29, Blittersdorffsplatz, Frankfort-on-Main.

FURNITURE, PAINTING, MATERIALS, etc.

DECEMBER 22. — **Cambridge.** — STORES. — The Committee of Visitors of the Cambridge County Lunatic Asylum, Fulbourn, Cambs., invite tenders for the supply of oils, oil colours, window glass, disinfectants, etc., for six calendar months from January 1 next. Mr. T. Musgrave Francis, Clerk to the Visitors, 10, Peas-hill, Cambridge.

DECEMBER 22. — **Sunderland.** — STORES. — The Sunderland R.D. invite tenders for the periodical supply and delivery of the best 2-in. hand-broken whinstone, 1-in. and 2-in. tarred limestone, ½-in. whinstone chippings, and ½-in. blast furnace slag chippings. Mr. J. C. Wilson, Clerk to the Council, 17, John-street, Sunderland.

DECEMBER 23.—**Enfield.**—ROAD MATERIAL.—The U.D.C. of Enfield invite tenders for the supply of hardcore and gravel delivered free at New Barnet Station, G.N. Railway. Tenders are also invited for the supply of unscreened gravel, which must be of good quality, clean, hard, and binding. Separate tenders to be sent to Mr. Richard Collins, Surveyor, Public Offices, Enfield.

DECEMBER 23.—**Gillingham.**—MATERIALS.—The T.C. of Gillingham invite tenders for the following for the term of one year, commencing on April 1, 1914:—(1) Road materials; (2) Portland cement and lime; (3) requisites for precipitation works; (4) stoneware pipes, etc.; (5) timber; (6) sewer ironwork; (7) coal and coke; (8) bricks; (9) paints, oils, and varnish; (10) general stores and ironmongery; (11) disinfectants. Specifications from Mr. J. L. Redfern, Borough Engineer and Surveyor, Gillingham, Kent.

DECEMBER 23.—**India.**—FILES.—The Bombay, Baroda, and Central India Railway invite tenders for the supply of files. Mr. C. Crommelin, Secretary, offices, Gloucester House, 110, Bishopsgate, London.

DECEMBER 24. — **Waterloo-with-Seaforth.** — FIRE-ENGINE, ETC.—The U.D.C. of Waterloo-with-Seaforth invite tenders for a motor fire-engine with petrol-driven pumps, together with fire appliances and canvas delivery hose. Specifications from Mr. F. Spencer Yates, A.M.Inst.C.E., the Surveyor to the Council, at the Town Hall, Waterloo, near Liverpool.

DECEMBER 29.—**Hastings.**—STORES.—The Corporation invite tenders for stores for a period of twelve months, including manhole covers, pipes, sheet glass, etc. Specifications of the Borough Engineer, Mr. P. H. Palmer, Town Hall.

DECEMBER 29. — **Wombwell.** — STORES. — The Wombwell U.D.C. invite tenders for the supply of materials to the gas works for twelve months, including fittings, tubes, lubricants, sheet glass, etc. Forms of tender of Mr. F. D. Walmsley, engineer and manager, Gas Works, Wombwell.

DECEMBER 30.—**Weymouth.**—ROAD MATERIAL.—The Corporation of Weymouth invite tenders for the supply of broken granite during the period ending March 31, 1915. Form of tender of Mr. Kenneth J. S. Harris, Borough Engineer and Surveyor, Municipal Offices, Weymouth.

DECEMBER 31.—**Dublin.**—STORES.—The Alliance and Dublin Consumers' Gas Company invite tenders from ironfounders, gun-barrel manufacturers, timber merchants, druggists, rope makers, etc., for goods, to be delivered on the company's works, Great Brunswick-street, in such quantities as may be required from time to time up to December 31, 1914. Mr. Francis T. Cotton, Secretary and Manager, Dublin.

DECEMBER 31.—**Lydd.**—TAR.—The T.C. invite tenders for the supply and delivery of 200 barrels of tar. Mr. Thomas Kettle, Borough Surveyor, Lydd.

DECEMBER 31.—**Oxford.**—STORES.—The Corporation invite tenders for the supply of the undermentioned goods for two years from January 10, 1914:—(1) Ironmongery; (2) castings; (3) oils, paints, and disinfectants; (4) timber; (5) bass broomheads. Schedules at the City Engineer's Office, Town Hall.

JANUARY 1, 1914. — **Richmond.** — TAR. — The Richmond T.C. invite tenders for the supply and delivery to their depôt, Lower Mortlake-road, Richmond, of about 10,000 gallons of dehydrated tar, for use during the spring and summer of 1914. Mr. Henry Sagar, Town Clerk, Town Hall, Richmond, Surrey.

JANUARY 3.—**Northallerton.**—ROAD MATERIAL.—The North Riding of Yorkshire C.C. invite tenders for broken and unbroken stone required for the new road in the Leyburn, Aysgarth, Bedale, Richmond, and Whitby districts during the year ending March 31, 1915. Mr. W. G. Bryning, County Surveyor, Northallerton.

JANUARY 5.—**Hornsey.**—MATERIALS, ETC.—The T.C. invite tenders for the following for one or three years from April 1, 1914:—(1) Supply of road materials; (2) supply of paving, granite, and general masons' materials; (3) masons' and paviors' work; (4) supply of Portland cement; (5) supply of forage; (6) supply of general stores and ironmongery; (7) iron and steel; (8) supplies for wheelwrights' work and cart fittings; (9) supply of disinfectants; (10) sewer and drainage work; (11) supply of bituminous road materials. Forms of tender from Mr. E. J. Lovegrove, Borough Engineer and Surveyor, Municipal Offices, 99, Southwood-lane, Highgate.

JANUARY 5.—**Irlam.**—MATERIALS.—The Irlam U.D.C. invite tenders for the supply of the following materials required during the year ending March 31, 1915, viz.:—Tar macadam, granite, macadam land chippings, paviors' chippings, kerbs, setts, copper slag, cinders, concrete flags, Portland cement, stoneware pipes, coal and coke, hire of steam road roller, pitch and creosote oil, disinfectants, scavenging brooms, iron castings, team labour. Forms of tender of Mr. R. H. Winterbottom, Surveyor, Council Offices, Irlam.

JANUARY 5.—**Margate.**—PIPES.—The Corporation of Margate invite tenders for the supply of 1,900 yds. of 8-in. socket pipes and 8-in. special castings. Form of tender of Mr. F. Stanley, Waterworks Manager, 13, Grosvenor-place, Margate.

JANUARY 5.—**Salford.**—SCHOOL FURNITURE.—The E.C. invite tenders for desks and furniture (including laboratory fittings) for new secondary school. Specifications from the Director of Education, Education Office, Salford.

JANUARY 6.—**Birmingham.**—PAINTING.—The Baths Committee invite competitive tenders for the cleaning, painting, and colouring work required at the Kent-street Baths. Also separate tenders for similar work at the Moseley-road Baths, and separate tenders for similar work at the Tiverton-road Baths, Selly Oak. Specification, etc., of Mr. J. Cox, Superintendent Engineer, office, Kent-street, Birmingham. Deposit, 10s.

JANUARY 7.—**Manchester.**—TERRA COTTA.—The Manchester E.C. invite tenders for the supply of red terra cotta for extension to Municipal School of Art, Cavendish-street, C.-on-M., Manchester. Quantities, etc., of Mr. Thomas Hudson, Town Clerk. Deposit, £1 1s.

* JANUARY 8.—**Hampstead.**—WORKS, MATERIALS, OR SERVICES.—The Hampstead B.C. invite tenders for supply of materials and execution of certain works or services for period of one or three years.

ROADS, SANITARY AND WATER WORKS.

DECEMBER 22.—**Alnwick.**—WATERWORKS.—The R.D.C. of Alnwick require separate tenders for (1) providing and laying 157 yds. of 9-in. socketed pipes at Alnmouth, and (2) for improvements to the borehole at Snableazes Reservoir. Specification of Mr. T. Bickerton, Alnmouth.

DECEMBER 22.—**Billericay.**—STREET WORKS.—The Brentwood U.D.C. and the Billericay R.D.C. invite tenders for the following work:—(*a*) The making up of the portion of Kavanagh-road situate in the Brentwood Urban District; (*b*) the making up of the portion of Kavanagh-road situate in the Billericay Rural District; (*c*) works of surface-water drainage. Quantities at the office of the Surveyor, Mr. A. T. G. Woods, New-road, Brentwood. Deposit, £2 2s.

DECEMBER 22. — **Cullompton.** — SEWERAGE WORKS.—The Tiverton R.D.C. invite tenders for carrying out certain sewerage works at Cullompton. Particulars of Mr. J. Reynolds, Cullompton.

DECEMBER 22.—**Grangemouth.**—ROADS.—The Burgh of Grangemouth invites tenders for the strengthening and resurfacing of about 9,000 square yds. of the main road between Grangemouth and Falkirk. Specification, etc., of Mr. David A. Donald, C.E., Burgh Engineer, Town Hall, Grangemouth.

DECEMBER 22.—**Settle.**—SEWAGE WORKS.—The Settle R.D.C. invite tenders for (1) laying about 1,090 lineal yds. of earthenware pipe sewers and constructing screening tanks, etc., and (2) building rubble store, fence, walls, etc. Quantities, etc., of Mr. T. A. Foxcroft, Council Engineer, Town Hall, Settle.

DECEMBER 22.—**Swansea.**—STREET WORKS.—The Corporation invite tenders for street works in several streets. Quantities of Mr. Geo. Bell, Borough Surveyor, 13, Somerset-place, Swansea.

[Those with an asterisk (*) are advertised in this issue.]

ROADS, etc.—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

DECEMBER 22.—**West Hartlepool.**—STREET WORKS.—The Corporation invite tenders for the construction of Berwick-street and Back Berwick-street, etc. Quantities, etc., of Mr. W. F. Dennis, Borough Engineer, West Hartlepool.

DECEMBER 23.—**Rhondda.**—STREET WORKS, ETC.—The Rhondda U.D.C. invite tenders for various street works and for the supply of 100 lamp columns. Specifications at the Council Offices, Pentre. Deposit, £1 1s. each contract.

DECEMBER 23.—**Salford.**—STREET WORKS.—The Corporation invite tenders for sewering, paving, and flagging works. Particulars from Borough Engineer's Office, Town Hall, Salford.

DECEMBER 24.—**Belper.**—SEWERS.—The Belper R.D.C. invite tenders for the construction of about 450 yds. of 9-in. and 6-in. diameter pipe sewers, with the necessary manholes, lampholes, and sewage disposal work at Open Woodgate, in the parish of Denby. Specification, etc., of Mr. Robt. C. Cordon, C.E., Surveyor, Duffield, Derby. Deposit, £1 1s.

DECEMBER 24.—**Manchester.**—ASPHALTING.—The Guardians of Manchester invite tenders for asphalting the walks, paths, etc., of one of the airing yards at their Workhouse at Crumpsall. Specifications at the office of Mr. A. J. Murgatroyd, architect, 23, Strutt-street, Manchester. Deposit, 10s. 6d.

DECEMBER 24.—**Manchester.**—ASPHALTING.—The Guardians of Manchester invite tenders for asphalting the girls' playground at their schools at Swinton. Specifications at the office of Mr. A. J. Murgatroyd, architect, 23, Strutt-street, Manchester. Deposit, 10s. 6d.

DECEMBER 29.—**Burnham-on-Crouch.**—WATERWORKS.—The Burnham-on-Crouch U.D.C. invite tenders for the laying of 726 yds. of 4-in. and 1,750 yds. of 3-in. diameter cast-iron service and pumping main, with hydrants and sluice valves; also pump connection at the existing Waterworks Pumping Station, Burnham-on-Crouch. Specification, etc., from Mr. J. Cook, the Surveyor to the Council, Council Office, Burnham-on-Crouch.

DECEMBER 29.—**Neath.**—WATERWORKS.—The Neath Corporation invite tenders for the following works:—(1) Excavating trenches for and hauling, laying, and jointing about 4,000 lineal yds. of 4-in. and 5-in. cast-iron socket pipes; fixing valves, meters, and other fittings, and constructing a cement concrete reservoir to hold 35,000 gallons; (2) excavating trenches for and hauling, laying, and jointing about 1,660 lineal yds. of 9-in. cast-iron socket pipes; fixing valves, meters, and other fittings, and incidental works. Specifications, etc., of the Engineer, Mr. D. M. Jenkins, A.M.Inst.C.E., Gwyn Hall, Neath. Deposit, £3 3s.

DECEMBER 29.—**Ruislip.**—SEWER.—The Ruislip-Northwood U.D.C. invite tenders for the construction of about 663 yds. of 9-in. stoneware pipe sewer, with manholes and incidental works. Specification, etc., from Mr. W. Louis Carr, the Council's Surveyor, at the Council Offices, Northwood, Middlesex. Deposit, £1.

DECEMBER 30.—**Swansea.**—ROADS.—The Swansea R.D.C. invite tenders for re-forming Plascedwgan-road, Chase Rural. Quantities, etc., of Mr. G. Powell Thomas, Station-road, Fforestfach.

DECEMBER 30.—**Wembley.**—SEWERAGE WORKS.—The Wembley U.D.C. invite tenders for constructing about six miles of 9-in., 12-in., and 15-in., pipe sewers, with manholes, etc. Specifications, etc., of the Engineer and Surveyor to the Council, Mr. Cecil R. W. Chapman, Public Offices, Wembley.

DECEMBER 31.—**Birmingham.**—ASPHALT.—The Public Works Committee invite tenders for the maintenance and repairs of certain asphalt pavements in the city for a period of ten years from January 1, 1914. Specification, etc., of Mr. Henry E. Stilgoe, M.Inst.C.E., City Engineer and Surveyor, The Council House, Birmingham. Deposit, £2.

DECEMBER 31.—**Ramsbottom.**—SPRINKLERS.—The Ramsbottom U.D.C. invite tenders for the supply, delivery, and erection of revolving sprinklers on the percolating filters at their Sewage Disposal Works. Specification, etc., of Messrs. James Diggle & Son, Civil Engineers, 14, Victoria-street, Westminster, S.W., and Hind Hill-street, Heywood, Lancashire. Deposit, £2.

JANUARY 3, 1914.—**Matlock.**—SPRINKLERS.—The Matlock U.D.C. invite tenders for the supply, delivery, and erection of revolving sprinklers on the percolating filters at their sewage disposal works. Specification, etc., of Messrs James Diggle & Son, Civil Engineers, 14, Victoria-street, Westminster, S.W., and Hind Hill-street, Heywood, Lancashire. Deposit, £2.

JANUARY 3.—**Northallerton.**—STEAM ROLLING.—The North Riding of Yorkshire C.C. invite tenders for steam rolling and scarifying on about 220 miles of main roads during the year ending March 31, 1915. Specifications of Mr. W. G. Bryning, County Surveyor, County Hall, Northallerton.

JANUARY 3.—**Northallerton.**—ROADS.—The North Riding of Yorkshire C.C. invite tenders for team labour and hauling (day work and by tonnage) on about 220 miles of main roads in the Central District, in the Leyburn, Aysgarth, Bedale, and Richmond districts, and in the Whitby rural district, during the year ending March 31, 1915. Specifications of Mr. W. G. Bryning, County Surveyor, County Hall, Northallerton.

JANUARY 3.—**Teddington.**—SEWAGE AND REFUSE DISPOSAL WORKS.—The Teddington U.D.C. invite tenders for the completion of works under contract No. 1, comprising buildings, chimney shaft, sewers, manholes, connections, roadways, and other works. Specification, etc., of Mr. Marshall Hainsworth, Surveyor to the Council, Public Offices, Teddington. Deposit, £5 5s.

JANUARY 3.—**Ulverston.**—ROADS.—The R.D.C. of Ulverston invite tenders for the following highway improvement works:—(1) Rusland-road; (2) Ferry—Hawkshead-road; (3) Skelwith Bridge-road. Specifications of the Council's Engineer, Virginia House, 24, Queen-street, Ulverston.

JANUARY 5.—**Pontypridd.**—ROAD IMPROVEMENT.—The Pontypridd U.D.C. invite tenders for carrying out road improvements at Pwll-Nantydall, Llantwit-road, Treforest, Pontypridd. Specification of Mr. W. E. Lowe, Engineer and Surveyor to the Council, Municipal Buildings, Pontypridd. Deposit, £1 1s.

JANUARY 6.—**Southport.**—SEWERAGE WORKS.—The Corporation of Southport invite tenders for the construction of stoneware pipe intercepting sewers, surface-water drains, destructor buildings, and other works appertaining thereto. Specification, etc., at the office of the Engineer, Mr. G. Midgley Taylor, M.Inst.C.E., Caxton House, Westminster, S.W., or at the Borough Surveyor's Office, Town Hall, Southport. Deposit, £3 3s.

* JANUARY 8.—**Islington.**—REPAIRS AND REPAVING.—The Guardians of St. Mary, Islington, invite tenders for repairs and repaving the yard at the Workhouse.

JANUARY 8.—**Mullingar.**—SEWERAGE WORKS.—The time for tendering for the works given in last week's issue has been extended to January 8 from December 18

JANUARY 19.—**Wandsworth.**—STREET WORKS.—The Wandsworth B.C. invite tenders for repairs to Fontaine-road, Hilldown-road, and Strathbrook-road, Streatham. Specifications of Mr. P. Dodd, Borough Engineer, 56, East-hill, Wandsworth. Deposit, £5 5s. in each case.

Public Appointment.

* NO DATE.—ARCHITECT'S ASSISTANT.—Applications for the above appointment are invited. Salary, £2 2s. per week.

Auction Sale.

* JANUARY 14, 1914.—Messrs. Churchill & Sim will sell by auction, at the Great Hall, Winchester House, Old Broad-street, E.C., an assortment of deals, battens, boards, timbers, etc.

[Those with an asterisk (*) are advertised in this issue.]

FOREIGN AND COLONIAL.

Building Material and Equipment, New Zealand.

H.M. Trade Commissioner for New Zealand (Mr. W. G. Wickham) has forwarded an extract from the local Press, which states that a building of seven stories is to be erected in Auckland to be used as company and other offices. The building is to have a skeleton steel frame, with reinforced concrete walls, floors, and panels. It will cover a total area of 12,500 sq. ft., and the cost is estimated at £50,000.

Materials for Wharf Construction and for Building, Brisbane.

The *Queensland Government Gazette* of October 16 publishes an Act authorising the City Council of South Brisbane to raise a further loan of £70,200, of which £13,200 is required for wharf construction, £25,000 for market buildings, and £32,000 for other buildings.

PATENTS.

APPLICATIONS PUBLISHED.*

26,247 of 1912.—William Kaulbach Achert: Machines for detecting and indicating the warpage of tiles and other articles.

26,789 of 1912.—G. D. Peters & Co., Ltd., and Louis Jean le Clair: Weather strips or draught excluders for windows, doors, and the like.

26,437 of 1912.—George Charles Ilett and Albert Ernest Ilett: Device for the trimming of the edges of wallpaper and the like.

27,812 of 1912.—Nino Magelssen: Building material and process for its manufacture.

1,459 of 1913. Jonathan Jackson Ingham: Bitumen macadam.

2,119 of 1913.—William Ernest Dewhurst: Lock for doors.

2,316 of 1913.—John Francis O'Rourke: Linings for tunnels, conduits, and the like.

3,300 of 1913.—Frederick John Strain: Sliding window-sashes, shutters, screens, doors, and the like.

5,037 of 1913.—William John Mellersh-Jackson (Blaw Steel Construction Company): Column-moulds for use in connection with concrete and like structures.

11,033 of 1913.—Ernst Heinrich: Tip-up roofing and skylights.

11,781 of 1913.—Paul Rosenkranz: Casement windows with fanlights.

15,836 of 1913.—John Henry Mason and Arthur Mason: Stone-breaking and like machines.

17,549 of 1913.—John James Kayll and Edwin Reed: Stained-glass windows.

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

WAREHOUSE, OFFICES, ETC., FOLEY-STREET, W.

New offices and a warehouse for Messrs. Jennens, Welch, & Co. are being erected in Foley-street and Union-street, W., from the design of Messrs. Naylor & Sale, of Derby. The general contractors are Messrs. McLaughlin & Harvey, Ltd., Brecknock-road, N.W., and the concrete construction is being carried out by the British Reinforced Concrete Engineering Company, Ltd., Victoria-street. The electric lifts are by Messrs. Smith, Major, & Stevens, Ltd., Battersea, and the lighting, by high-pressure gas, is in the hands of the Keith & Blackman Company, Ltd. The electric wiring for motors is by Messrs. Rashleigh Phipps & Co., Oxford-street, and the numerous fireproof doors by Messrs. Mather & Platt, Ltd., Westminster. The building will have a frontage of 70 ft. to Union-street, and the same to Foley-street, with a depth from back to front of about 100 ft. There will be six floors and a floor space of about 3,780 sq. ft.

BRITISH COLUMBIAN OFFICES, S.W.

Demolitions are proceeding at the corner of Regent-street and Charles-street, and on the site will be built offices, etc., for the Province of British Columbia. Mr. Alfred Burr, F.R.I.B.A., Gower-street, W.C., is the architect, and the general contractors are Messrs. Holland & Hannen, Hyde-street, Bloomsbury, W.C. It will be a steel-frame structure with Portland stone frontages.

TERMS OF SUBSCRIPTION.

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PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

Per 1000 Alongside, in River.	£ s. d.
Best Stocks	1 16 6
Picked Stocks for Facings	2 10 0

Per 1000, Delivered at Railway Depôt.	£ s. d.		£ s. d.
Flettons	1 14 0	Best Blue Pressed Staffordshire	3 15 0
Best Fareham Red	3 12 0	Do. Bullnose	4 0 0
Best Red Pressed Ruabon Facing	5 0 0	Best Stourbridge Fire Bricks	4 0 0
GLAZED BRICKS—			
Best White, Ivory, and Salt Glzd Str'tch'rs	12 7 6	Double Headers	14 17 6
Headers	11 17 6	One Side and two Ends	18 17 6
Quoins, Bullnose and 4½ in. Flats	15 17 6	Two Sides and one End	19 17 6
D'ble Str'tch'rs	17 17 6	Splays and Squints	17 7 6

Second Quality £1 10s. per 1000 less than best.

	s. d.	
Thames and Pit Sand	7 0	per yard, delivered.
Thames Ballast	5 9	" "
Best Portland Cement	37 0	per ton, "
Best Ground Blue Lias Lime	20 0	" "

NOTE—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 14s. 0d. per yard delivered.
Stourbridge Fireclay in sacks 27s. 0d. per ton at rly. dpt.

STONE.

Per Ft. Cube.

	s.	d.
BATH STONE — Delivered on road waggons, Paddington Depôt	1	7½
Do. do. Delivered on road waggons, Nine Elms Depôt	1	9½
PORTLAND STONE (20 ft. average)—		
Brown Whitbed, Delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2	4½
White Basebed, Delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2	6½

Per Ft. Cube, delivered at Railway Depôt.

	s.	d.		s.	d.
Ancaster in blocks..	1	10	Closeburn Red Freestone	2	0
Beer in blocks	1	6	Red Mansfield Freestone	2	4
Greenshill in blocks	1	10	Talsarn & Gwespyr Stone	2	4
Darley Dale in blocks	2	4			
Red Corsehill in blocks	2	3			

YORK STONE—*Robin Hood Quality.*

	s.	d.
Per Ft. Cube, Delivered at Railway Depôt. Scappled random blocks	2	10
Per Ft. Super., Delivered at Railway Depôt. 4 in. sawn two sides landings to sizes (under 40 ft. super.)	2	8
6 in. rubbed two sides ditto, ditto	2	6
3 in. sawn two sides slabs (random sizes)	0	11½
2 in. to 2½ in. sawn one side slabs (random sizes)	0	7
1½ in. to 2 in. ditto, ditto	0	6

HARD YORK—

	s.	d.
Per Ft. Cube, Delivered at Railway Depôt. Scappled random blocks	3	0
Per Ft. Super., Delivered at Railway Depôt. 4 in. sawn two sides landing to sizes (under 40 ft. super.)	2	8
6 in. rubbed two sides ditto	3	0
3 in. sawn two sides slabs (random sizes)	1	2
2 in. self-faced random flags	0	5

SLATES.

Per 1000 of 1200 at Railway Depôt.

In. In.	£	s.	d.	In. In.	£	s.	d.
20 x 10 best blue Bangor	13	2	6	20 x 10 best Eureka unfading green..	15	17	6
20 x 12 ditto ..	13	17	6	20 x 12 ditto ..	18	7	6
20 x 10 1st q'lity ditto	13	0	0	18 x 10 ditto ..	13	5	0
20 x 12 ditto ..	13	15	0	16 x 8 ditto ..	10	5	0
16 x 8 ditto ..	7	5	0	20 x 10 permanent green	11	12	6
22 x 10 best blue Portmadoc ..	12	12	6	18 x 10 ditto ..	9	12	6
16 x 8 ditto ..	6	12	6	16 x 8 ditto ..	6	12	6

TILES.

At Railway Depôt.

	s.	d.		s.	d.
Best plain red roofing (per 1000) ..	42	0	Best "Hartshill" brand, plain sand-faced (per 1000) .	45	0
Hip and Valley (per doz.) ..	3	7	Do. pressed (per 1000)	42	6
Best Broseley (per 1000)	50	0	Do. Ornamental (per 1000)	47	6
Do. Ornamental (per 1000)	52	6	Hip (per doz.) .	4	0
Hip and Valley (per doz.) ..	4	0	Valley (perdoz.)	3	6
Best Ruabon red, brown, or brindle (Edw'ds)(pr1000)	57	6	Staffords. (Hanley) Reds or Brindled (per 1000)	42	6
Do. Ornamental (per 1000)	60	0	Hand-made sand-faced (per1000)	45	0
Hip (per doz.) .	4	0	Hip (per doz.) .	4	0
Valley (per doz.)	3	0	Valley (per doz)	3	6

WOOD.

BUILDING WOOD.	At per standard.					
	£	s.	d.		£	s.	d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in...	15	0	0	..	16	10	0
Deals: best 3 in. by 9 in.....	15	0	0	..	16	0	0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	12	10	0	..	13	10	0
Battens: best 2½ by 6 and 3 by 6	0	10	0		less than 7 in. and 8 in.		
Deals: seconds	1	0	0		less than best		
Battens: seconds	0	10	0		"		"
2 in. by 4 in. and 2 in. by 6 in.	11	10	0	..	12	10	0
2 in. by 4½ in. and 2 in. by 5 in.	10	10	0	..	11	10	0
Foreign Sawn Boards— 1 in. and 1¼ in. by 7 in.....	0	10	0		more than battens.		
¼ in.	1	0	0		"		
Fir timber: best middling Danzig or Memel (average specification)	At per load of 50 ft.						
	5	0	0	..	6	5	0
Seconds	4	10	0	..	5	0	0
Small timber (8 in. to 10 in.)	3	17	6	..	4	0	0
Small timber (6 in. to 8 in.)	3	5	0	..	3	10	0
Swedish balks	2	12	6	..	3	0	0
Pitch-pine timber (30 ft. average)	6	0	0	..	7	0	0

JOINERS' WOOD.	At per standard.					
	£	s.	d.		£	s.	d.
White Sea: first yellow deals, 3 in. by 11 in.....	26	0	0	..	27	0	0
3 in. by 9 in.	24	0	0	..	25	0	0
Battens, 2½ in. and 3 in. by 7 in.	18	10	0	..	19	10	0
Second yellow deals, 3 in. by 11 in.	21	10	0	..	22	10	0
" " 3 in. by 9 in.	20	0	0	..	21	0	0
Battens, 2½ in. and 3 in. by 7 in.	15	0	0	..	16	0	0
Third yellow deals, 3 in. by 11 in. and 9 in.	16	0	0	..	17	0	0
Battens, 2½ in. and 3 in. by 7 in.....	14	0	0	..	15	0	0

WOOD (*Continued*).

JOINERS' WOOD (*Continued*)—	At per standard.					
	£	s.	d.		£	s.	d.
Petersburg: first yellow deals, 3 in. by 11 in.....	23	0	0	..	24	0	0
Do. 3 in. by 9 in.	20	0	0	..	21	0	0
Battens	15	0	0	..	16	0	0
Second yellow deals, 3 in. by 11 in.	17	10	0	..	18	10	0
Do. 3 in. by 9 in.....	16	0	0	..	17	0	0
Battens	12	10	0	..	13	10	0
Third yellow deals, 3 in. by 11 in.	14	0	0	..	15	0	0
Do. 3 in. by 9 in.....	13	10	0	..	14	10	0
Battens	11	10	0	..	12	10	0
White Sea and Petersburg— First white deals, 3 in. by 11 in.	16	10	0	..	17	10	0
First white deals, 3 in. by 9 in.	14	10	0	..	15	10	0
Battens	13	0	0	..	13	10	0
Second white deals, 3 in. by 11 in.	14	10	0	..	15	10	0
Second white deals, 3 in. by 9 in.	13	0	0	..	14	0	0
Battens	12	0	0	..	12	10	0
Pitch-pine deals	25	0	0	..	26	10	0
Under 2 in. thick extra....	0	10	0	..	1	0	0
Columbian or Oregon Pine, best quality.....	23	10	0	..	26	0	0
Yellow Pine—First, regular sizes	50	0	0		upwards.		
Oddments	35	0	0		"		
Seconds, regular sizes.....	36	0	0		"		
Oddments	31	0	0		"		
Kauri Pine—Planks per ft. cube	0	5	6	..	0	6	6
Danzig and Stettin Oak Logs— Large, per ft. cube.....	0	3	0	..	0	3	9
Small " "	0	2	6	..	0	3	0
Wainscot Oak Logs, per ft. cub	0	7	6	..	0	9	0
Dry Wainscot Oak, per ft. super. as inch	0	0	10	..	0	1	2
¾ in. do. do.....	0	0	9	..	0	1	0
Dry Mahogany — Honduras, Tabasco, per ft. super. as inch	0	0	10	..	0	1	3
Selected, Figury, per ft. super. as inch	0	1	6	..	0	2	6
Cuba Mahogany	0	1	4	..	0	2	6
Dry Walnut, American, per ft. super. as inch	0	0	10	..	0	1	2
French, "Italian," Walnut ..	0	0	10	..	0	1	4
Teak, per load (Rangoon or Moulmein)	20	10	0	..	26	0	0
Do., do. (Java)	19	0	0	..	22	10	0
American Whitewood planks, per ft. cube	0	5	6	..	0	6	6
Prepared Flooring, etc.—	Per square.						
1 in. by 7 in. yellow, planed and shot	0	14	6	..	0	18	0
1 in. by 7 in. yellow, planed and matched	0	14	9	..	0	18	0
1¼ in. by 7 in. yellow, planed and matched	0	17	6	..	1	3	0
1 in. by 7 in. white, planed and shot	0	14	0	..	0	16	0
1 in. by 7 in. white, planed and matched	0	14	3	..	0	16	6
1¼ in. by 7 in. white, planed and matched	0	16	6	..	0	8	6
¾ in. by 7 in. yellow, matched and beaded or V-jointed boards.....	0	12	6	..	0	15	0
1 in. by 7 in. " "	0	15	0	..	0	18	6
¾ in. by 7 in. white " "	0	12	0	..	0	14	0
1 in. by 7 in. " "	0	14	6	..	0	16	6

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London or delivered Railway Vans, per ton.						
	£	s.	d.		£	s.	d.
Rolled Steel Joists, ordinary sections	9	0	0	..	10	0	0
Compound Girders, ordinary sections	11	0	0	..	12	0	0
Steel Compound Stanchions..	12	0	0	..	13	0	0
Angles, Tees, and Channels, ordinary sections.....	11	0	0	..	12	0	0
Flitch Plates	11	0	0	..	12	0	0
Cast Iron Columns & Stanchions, including ordinary patterns	8	10	0	..	9	0	0

METALS.

	Per ton, in London.						
IRON—	£	s.	d.		£	s.	d.
Common Bars	9	0	0	..	9	10	0
Staffordshire Crown Bars, good merchant quality ..	9	5	0	..	9	15	0
Staffordshire "Marked Bars"	11	0	0	..	—		
Mild Steel Bars	9	5	0	..	9	15	0
Hoop Iron, basis price	10	0	0	..	—		
" Galvanised	17	10	0	..	—		

(* And upwards, according to size and gauge.)

Sheet Iron Black—							
Ordinary sizes to 20 g.	10	5	0	..	—		
" " 24 g.	11	5	0	..	—		
" " 26 g.	12	15	0	..	—		
Sheet Iron, Galvanised, flat, ordinary quality—							
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15	10	0	..	—		
Ordinary sizes to 22 g. and 24 g.	16	0	0	..	—		
Ordinary sizes to 26 g.	17	0	0	..	—		
Sheet Iron, Galvanised, flat, best quality—							
Ordinary sizes to 20 g.	18	10	0	..	—		
" " 22 g. and 24 g.	19	0	0	..	—		
Ordinary sizes to 26 g.	20	10	0	..	—		
Galvanised Corrugated Sheets—							
Ordinary sizes, 6 ft. to 8 ft. 20 g.	15	0	0	..	—		
Ordinary sizes, 22 g. and 24 g.	15	5	0	..	—		
Ordinary sizes, 26 g.	16	15	0	..	—		
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	12	10	0	..	—		

METALS (*Continued*).

IRON (*Continued*)—	Per ton, in London.						
	£	s.	d.		£	s.	d.
Best Soft Steel Sheets, 22 g. & 24 g.	13	10	0	..	—		
Best Soft Steel Sheets, 26 g...	15	10	0	..	—		
Cut Nails, 3 in. to 6 in.....	11	0	0	..	11	10	0

(Under 3 in., usual trade extras.)

LEAD, &c.

Delivered in London.

		£	s.	d.		
LEAD—Sheet, English, 4 lb. and up		21	0	0	..	—
Pipe in coils.....		21	10	0	..	—
Soil pipe		21	0	0	..	—
Compo pipe		21	10	0	..	—
ZINC—Sheet—	In casks of 10 cwt.					
Vielle Montagne		28	5	0	..	—
Silesian		28	10	0	..	—
Zinc, in bundles, 1s. per cwt. extra.						
COPPER—						
Strong Sheet	per lb.	0	1	1	..	—
Thin "	"	0	1	2	..	—
Copper nails.....	"	0	1	0	..	—
Copper wire.....	"	0	1	0	..	—
BRASS—						
Strong Sheet	"	0	1	0	..	—
Thin	"	0	1	1	..	—
TIN—English Ingots ..	"	0	1	11	..	—
SOLDER—Plumbers' ..	"	0	0	10	..	—
Tinmen's	"	0	1	1	..	—
Blowpipe	"	0	1	3	..	—

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.*

Per Ft. Delivered.

15 oz. thirds	2½d.	26 oz. fourths	3¾d.
" fourths	2d.	32 oz. thirds	5½d.
21 oz. thirds	3½d.	" fourths	4½d.
" fourths	3d.	Fluted Sheet, 15 oz.	3d.
26 oz. thirds	4½d.	" 21 oz.	4d.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.*

Per Ft. Delivered.

⅛ Rolled plate	2½d.	Figured Rolled, Oxford Rolled, Oceanic, Arctic, Muffled, and Rolled Cathedral, white..	3½d.
3/16 Rough rolled and rough cast plate	2½d.		
¼ Rough rolled and rough cast plate..	3d.	Ditto, tinted	5d.

* Not less than two crates.

OILS, &c.

		£	s.	d.
Raw Linseed Oil in pipes	per gallon	0	2	3
" " " in barrels	"	0	2	4
" " " in drums	"	0	2	6
Boiled " " in barrels	"	0	2	6
" " " in drums	"	0	2	9
Turpentine in barrels	"	0	2	9
" in drums	"	0	2	11
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		29	15	0
Red Lead, Dry	per ton	27	10	0
Best Linseed Oil Putty	per cwt.	0	9	0
Stockholm Tar	per barrel	1	12	0

VARNISHES, &c.

	Per gallon. £	s.	d.
Fine Pale Oak Varnish.....	0	8	0
Pale Copal Oak	0	10	6
Superfine Pale Elastic Oak.....	0	12	6
Fine Extra Hard Church Oak	0	10	0
Superfine Hard-drying Oak, for seats of Churches	0	14	6
Fine Elastic Carriage	0	12	9
Superfine Pale Elastic Carriage	0	16	0
Fine Pale Maple	0	10	0
Finest Pale Durable Copal	0	18	6
Extra Pale French Oil.....	1	1	0
Eggshell Flating Varnish.....	0	18	0
White Pale Enamel	1	4	0
Extra Pale Paper.....	0	12	0
Best Japan Gold Size	0	10	0
Best Black Japan.....	0	16	0
Oak and Mahogany Stain	0	9	0
Brunswick Black	0	8	0
Berlin Black	0	16	0
Knotting	0	10	6
French and Brush Polish.....	0	10	0

TO CORRESPONDENTS.

NOTE.—All communications with respect to literary and artistic matters should be addressed to "THE EDITOR" (and not to any person by name); those relating to advertisements and other exclusively business matters should be addressed to THE BUILDER LTD., and *not* to the Editor.

All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.

The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications; and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples sent to or left at this office, unless he has specially asked for them.

All drawings sent to or left at this office for consideration should bear the owner's name and address on either the face or back of the drawing. Delay and inconvenience may result from inattention to this.

Any commission to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

N.B.—Illustrations of the First Premiated Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

TENDERS.

*** Owing to the Christmas holidays the *Builder* will be published next week on *Wednesday* instead of Friday. All communications must therefore reach the Editor *not later than first post on Tuesday morning.*

* Denotes *accepted.* † Denotes *provisionally accepted.*

BARGOED (Glam).—For providing folding partition, hoppers, etc., at the Infants' Council School, for the Glamorgan Education Committee. Mr. D. Pugh-Jones, M.S.A., County Architect, Cardiff :—

D. Davies, Dona d-street, Cardiff* £409

BARRY.—For rebuilding part of the County School destroyed by fire, for the Glamorgan County Council. Mr. D. Pugh-Jones, F.S.I., County Architect, Cardiff :—

W. Britton, Barry* £1,130 4 6

CHOBHAM.—For the erection of sixteen cottages at Chobham under the Housing of the Working Classes Act, for the Urban District Council :—

Norris & Co.	£4,112 0 0	Collinson & Co.	£3,715 19 0
Gaze & Son	4,071 0 0	Drowley & Bridger	3,680 4 0
B. B. Tarring..	4,005 0 0	R. Love & Co...	3,518 0 0
W. G. Tarrant	3,999 0 0	T. Crossley & Sons	3,373 17 8
Allwork	3,997 0 0	J. Chitty & Co.	3,192 0 0
F. Pizzy & Son	3,904 0 0	W. Sanderson..	2,988 0 0
F. & H. F. Higgs	3,853 0 0		
Sherfield Bros.	3,812 0 0		
S. Silk	3,794 10 0		

[Consideration deferred.]

COVENTRY.—For erection of iron emergency staircase at Hill-street House, for the Board of Guardians :—

Matterson, Huxley, & Watson* £109 13

DONCASTER. — For street works at Park-road, Owston, and Owston-road, Skellow, for the Doncaster Rural District Council :—

C. Fletcher, Doncaster* £2,086 16 6

EPSOM.—For erection of new surface and well pumps, for the Epsom Urban District Council :—

J. Simpson & Co.† £2,303

HERTFORD.—For fencing the land adjoining the Chadwell Spring, Hertford, for the Metropolitan Water Board :—

D. Rowell & Co., Ltd.	£487 15 0
Hill & Smith, Ltd.	411 15 4
F. W. Palmer & Co.	407 15 0
Bayliss, Jones, & Bayliss, Ltd.	402 0 0

[The firms tendering were given the opportunity of quoting an alternative price for the substitution of a suitable stock pattern section of standard; and Messrs. F. W. Palmer & Co., quoted £394, which was accepted.]

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HAMMERSMITH. — For repairs to property in Standard-road, for the Metropolitan Water Board :—

Rice & Son	£218 0 0
W. H. Gaze & Son	212 10 0
Berdoe & Son	207 7 6
Clemens Bros	189 0 0
W. Chapman & Sons, Black Lion-yard, Hammersmith*	162 0 0

KINGSTEIGNTON.—For building a bakery and store at Kingsteignton, Devon, for Mr. G. H. Beer. Mr. S. Segar, architect, Newton Abbot :—

Parker Bros	£499 0 0	S. Howe & Sons	£426 10 0
F. A. A. Stacey	494 0 0	W. F. Pearce	423 0 0
H. Mills	459 0 0	Wilkins & Sons	419 0 0
F. I. Jealley & Son	446 15 9	A. P. Yeoman, Kingsteignton*	389 8 0
W. H. Taylor	430 0 0		

LEAVESDEN.—For new engine and kitchen apparatus at Leavesden Asylum, for the Metropolitan Asylums Board :—

F. M. Proctor & Co., Ltd.	£850 0
Watford Engineering Works, Ltd.	246 0
J. & F. May, 33, Whetstone Park, Lincoln's Inn-fields, W.C.*	224 10

LONDON.—For the reconstruction of the police-station at Stoke Newington. Mr. J. Dixon Butler, F.R.I.B.A., architect, New Scotland-yard, S.W. Quantities by Messrs. Thurgood, Son, & Chidgey, 8, Adelphi-terrace, Strand, W.C. :—

W. Taylor	£8,773	Willmott & Sons	£8,469
Holliday & Greenwood	8,694	Sabey & Sons	8,379
A. E. Syme	8,615	Jarvis & Sons	8,307
C. Wall, Ltd.	8,607	Roome & Co.	8,276
Dove Bros.	8,594	Patman & Fotheringham	8,228
F. & H. Higgs	8,589	Sheffield Bros.	8,109

LONDON.—The London County Council Education Committee have accepted the following tenders for the cleaning, etc., of schools :—

School.	Contractor.	Price.
		£ s. d.
Maidstone-street, Haggerston	A. H. Inns	257 0 0
Richard-street, Islington	Lister & Co., Ltd.	228 0 0
Hughes-fields, Greenwich	J. Scott-Fenn	168 18 0
Popham-road, Islington..	Markham & Markham	148 0 0
Heckford-street, Limehouse	G. Barker	183 10 0

LONDON.—For enlargement of Scawfell-street School, Haggerston, for the London County Council Education Committee (subject to approval by the Council) :—

F. & T. Thorne	£14,972 0	W. Lawrence & Son	£12,993 0
G. E. Wallis & Sons, Ltd.	13,896 0	Patman & Fotheringham, Ltd.	12,883 0
J. Chessum & Sons	13,738 6	L. H. & R. Roberts	12,758 0
J. Willmott & Sons	13,560 0	J. & C. Bowyer, Ltd.	12,579 0
Brand, Pettit, & Co.	13,389 0	W. King & Son, 3, Vauxhall-bridge-road*	12,485 0
C. P. Roberts & Co., Ltd.	13,300 0		

LONDON.—For providing and fixing radiators at St. John's-road Schools, Hoxton, for the London County Council :—

W. Simmons & Co.	£170 10	L. Norden	£115 0
J. C. Christie	142 10	G. & E. Bradley, 77, Lever-street*	114 10
J. Yetton & Co., Ltd.	120 10		

LONDON.—For construction of road on Tabard-street area, Southwark, for the London County Council :—

Markham & Markham	£5,825 0 0
W. Griffiths & Co., Ltd.	5,289 16 5
J. Mowlem & Co., Ltd.	5,165 0 0
W. H. Wheeler & Co., Ltd.	4,922 19 11
G. J. Anderson	4,841 14 11
H. Woodham & Sons	4,587 2 9
H. Farrow	4,583 0 11
J. Ford, Willesden*	4,499 15 2

LONDON.—For installing heating apparatus in the new school for infants in Woolmore-street, Poplar, for the London County Council :—

W. Simmons & Co.	£665 10	J. Yetton & Co., Ltd., 4, Carr-street, Limehouse*	£393 10
J. C. Christie	445 0		
L. Norden	409 0		
Palowkar & Sons	393 15		

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LONDON.—For the erection of an elementary school for 996 children in Derinton-road, Wandsworth, for the London County Council :—

Leslie & Co., Ltd.	£26,783	G. E. Wallis & Sons, Ltd.	£23,541
F. & T. Thorne	25,332	J. Smith & Sons, Ltd.	22,845
W. Smith & Son	24,829	J. & C. Bowyer, Ltd.	22,659
W. Akers & Co., Ltd.	24,594	W. Lawrence & Son, 21, Finsbury-circus*	22,172
J. Longley & Co.	24,240		
W. King & Son	23,992		
J. Garrett & Son	23,862		
Holliday & Greenwood, Ltd.	23,772		

LONDON.—For remodelling of the Bonner-street School, Bethnal Green, N.E., for the London County Council :—

F. & T. Thorne	£15,525 0 0
G. E. Wallis & Sons, Ltd.	13,888 0 0
McCormick & Sons, Ltd.	12,959 0 0
T. D. Leng	12,810 0 0
W. Moss & Sons, Ltd.	12,108 3 7
J. Willmott & Sons	12,058 0 0
J. Chessum & Sons	12,048 19 0
C. P. Roberts & Co., Ltd., 36, Tyssen-street, Dalston*	11,425 0 0

SHREWSBURY.—For construction of new road from Longden Coleham to Belle Vue-road, for Shrewsbury Corporation :—

H. Price, Shrewsbury* £698

SMETHWICK.—For the erection of Electricity Sub-Station and Tramways Parcels Express Depôt, Bearwood-road, Smethwick. Mr. Abel Round, architect, 1, Newhall-street, Birmingham. Quantities by Messrs. Banwell & Wakeman, Newhall-street, Birmingham :—

G. Law	£3,499	G. & H. Marshall	£2,425
J. Dallow & Sons	2,716	W. Jackson	2,415
A. H. Guest	2,483	B. Whitehouse & Sons	2,347
W. J. Whittall & Sons	2,477	C. Bryant, Small Heath*	2,339

WINDSOR.—For alterations to the steam cooking apparatus and water supply at the Workhouse, for the Board of Guardians :—

Benham & Sons, Ltd.	£579 0 0	Herring & Son, Chertsey*	£393 0 0
Moorwood, Ltd.	480 0 0	Wellman Bros.	360 16 9
J. & F. May	479 0 0		

WISBECH.—For additions and alterations to Workhouse, for the Board of Guardians :—

G. J. West, Wisbech* £787 10

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